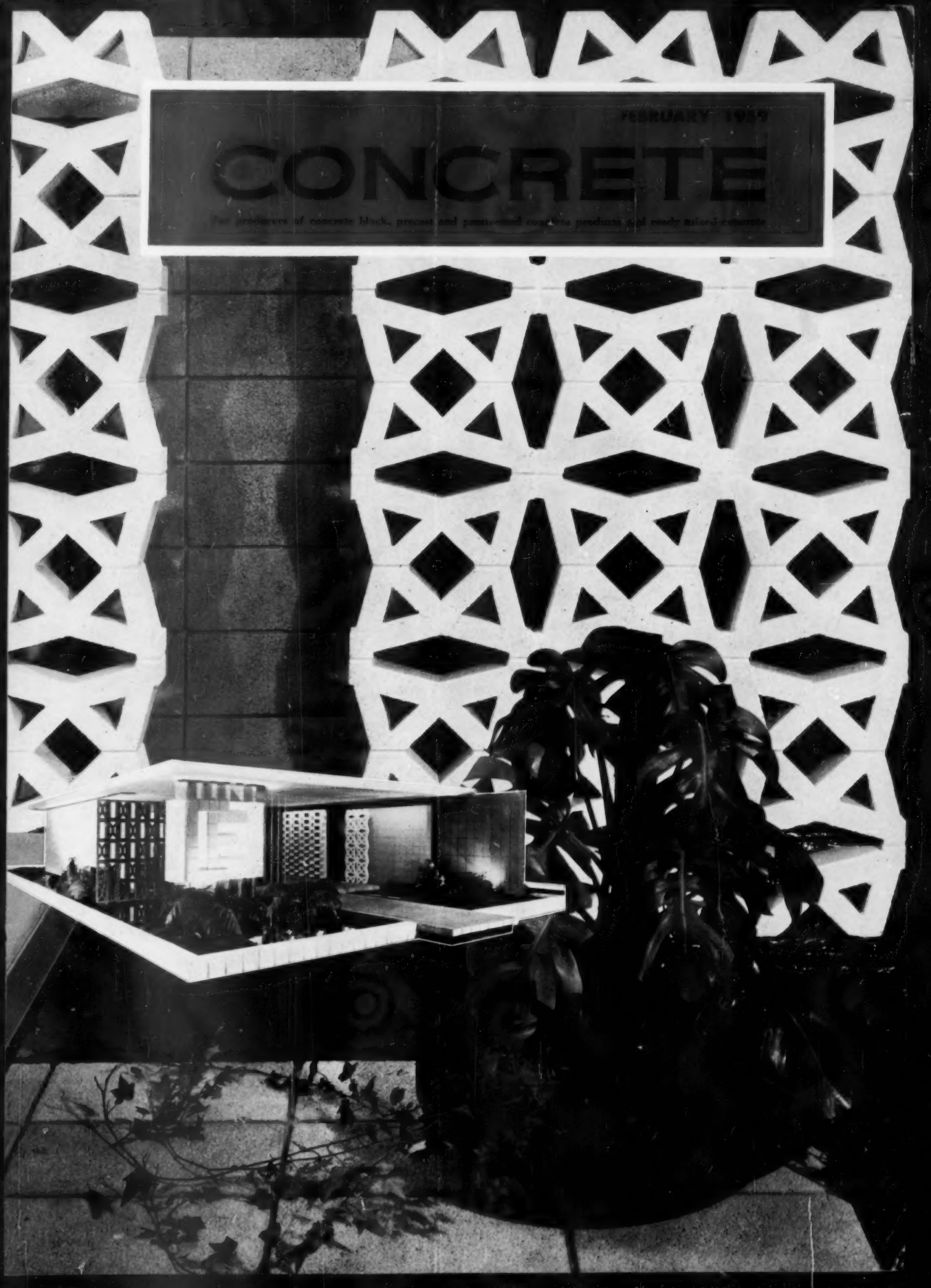
FEBRUARY 1959

CONCRETE

For producers of concrete block, precast and pretensioned concrete products and ready-mixed concrete



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AVERAGE $377 PER MILLION 8″ EQUIVALENTS FOR ALL REPAIR PARTS EXCLUSIVE OF MOLD BOXES

HERE ARE THE FACTS

—Listed below are 13 representative GOCORP "SUPER" TRUSTEES which have produced a million or more 8″ equivalents and total cost of repair parts (except mold box parts) shipped by our repair department, including spare parts now on customer's shelves. Plants are indicated by letter designation only—Names and addresses on request.

PLANT	PRODUCTION THRU OCT. '58	REPAIR PARTS COST THRU OCT. '58
A	3,250,000	$ 318.12
B	1,550,000	737.95
C	2,111,000	883.85
D	1,750,000	438.95
E	3,350,000	921.16
F	1,250,000	918.94

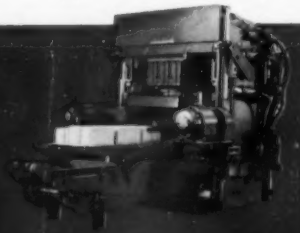
PLANT	PRODUCTION THRU OCT. '58	REPAIR PARTS COST THRU OCT. '58
G	1,300,000	481.40
H	2,800,000	705.24
I	1,600,000	1,081.86
J	1,000,000	336.60
K	2,400,000	1,791.71
L	1,600,000	434.14
M	1,500,000	588.00

Total Units 25,461,000 • Total Parts *Only* $9,607.92 • Or an average of only $377.36 per Million 8″ equivalents. If your repairs are higher, make your next machine a GOCORP TRUSTEE.

The above figures were subscribed and sworn to before me this *3rd*, day of December, 1958 by Mr. F. M. Cook, Treasurer of the Gene Olsen Corporation

Pearl K. Johnson

Notary Public, Lenawee County Michigan



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★ 2X & 2½X TRUSTEES

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★ "SUPER" TRUSTEE

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8 feet of 24 inch dia. pipe

IN MINUTES

with the STEIRO VIBRATION SYSTEM concrete pipe machine

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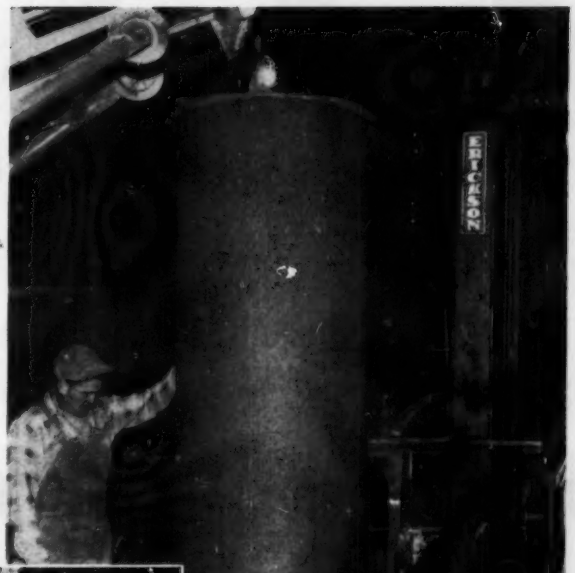

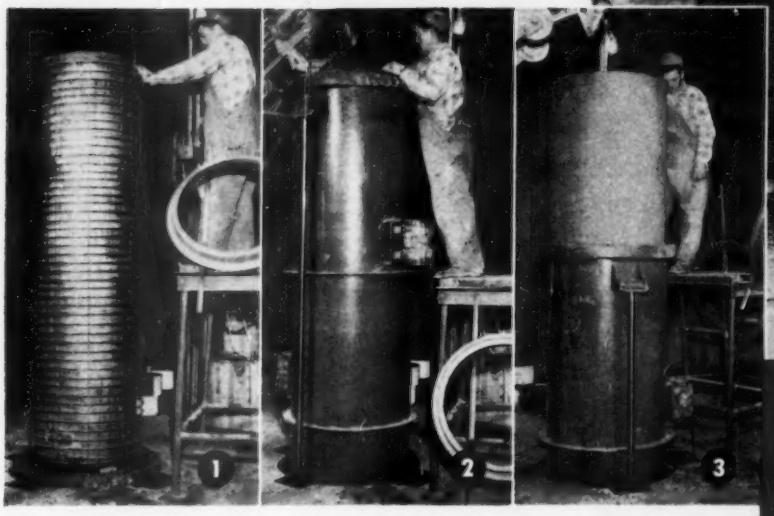

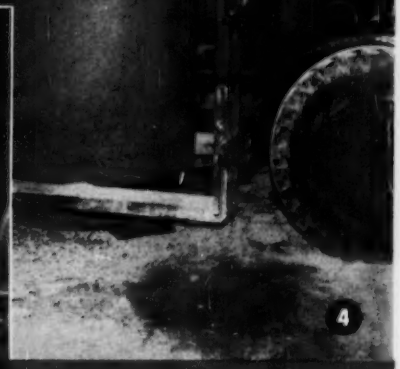

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2. Outer mold and inner core in up position ready for filling. Exterior vibrators compact the concrete in the form. (Approximately 12% more concrete into a given volume than by any other system.)

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4. Inner core and outer mold in down position. Pipe section being moved to the curing area.

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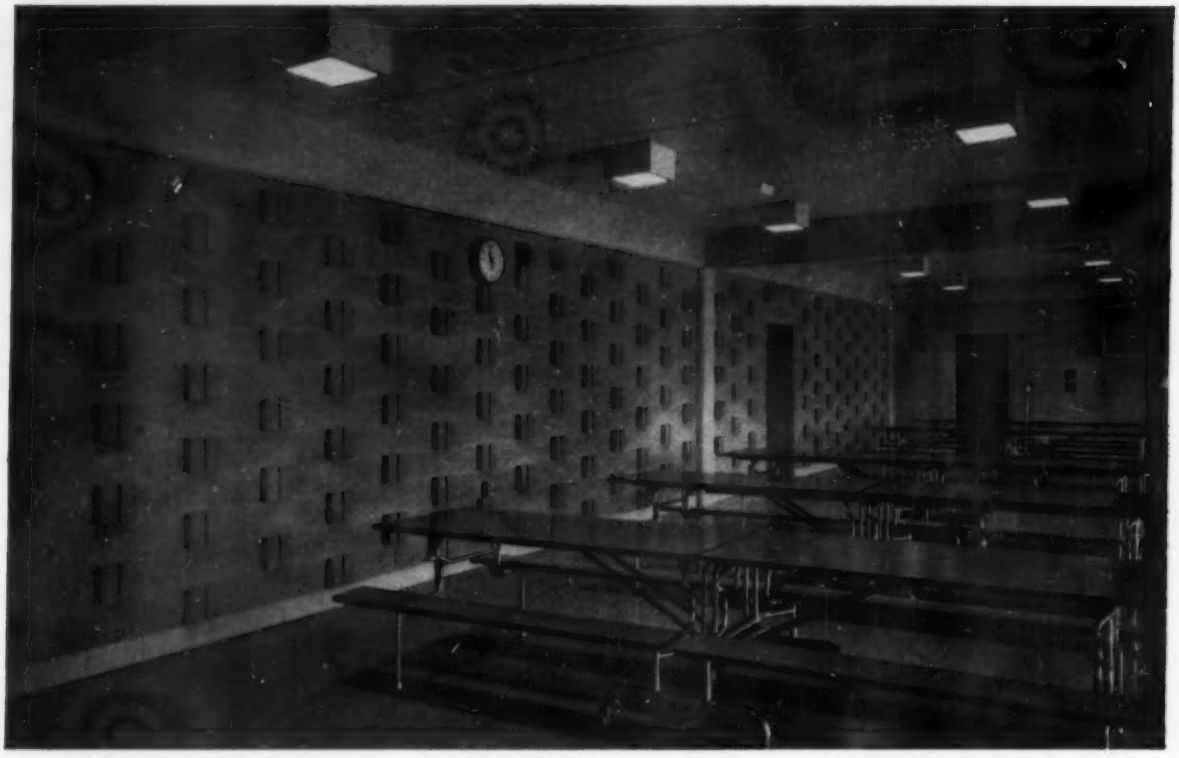
Throughout the United States genuine Dur-O-waL Steel Reinforcing is being used in the mortar bed to provide lasting protection for the classic beauty of masonry construction



You can provide timeless protection for the flawless beauty of masonry with time-tested Dur-O-waL. This high-tensile steel re-inforcing is trussed designed and custom fabricated to give masonry walls a backbone of steel.

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FEBRUARY 1959

CONCRETE

For producers of concrete block, precast and prestressed concrete products and ready mixed concrete

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FEATURES FOR THIS MONTH

NCMA Convention and Show Draw 4,610 to Cleveland 20

Automation, construction outlook, promotion, research, and block plant management headed up the wide range of talks and panel discussions presented at the just-past NCMA convention, Cleveland, Jan. 12-15. And the show, most of the time jam-packed with interested onlookers, included a considerable range of equipment and materials used by the concrete and concrete products industries. Here is a summary of the convention.

Evaluating Lower Costs by Automation 26

Paul Bronson's interesting and timely speech to the convention detailed how his company used "block per man hour" to appraise potential savings with automation.

What You Should Know About Autoclave Doors 28

In this comprehensive article, a recognized authority in autoclave engineering, J. B. Maher, discusses the types of doors available, construction features of each including safety devices, and the primary advantages and disadvantages of each.

Overtime Pay 33

Are some of your employees receiving overtime pay when the services they perform place them in an exempt category under the law? Or should you be paying overtime wages to employees not now receiving them? Here is an easy-to-read summary of recent changes in rules and a review of past regulations. By Rombley D. Stevens.

The Future May Be Opening Up — Editorial 19

Concrete masonry has some way to go before it's accepted for exposed work in home building. But we're hoping the enthusiasm engendered by the designs and new ideas in the NCMA pavilion and other exhibits will spread and will propel the industry off its 2 billion plateau and on into a greater share of the home market.

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DEPARTMENTS

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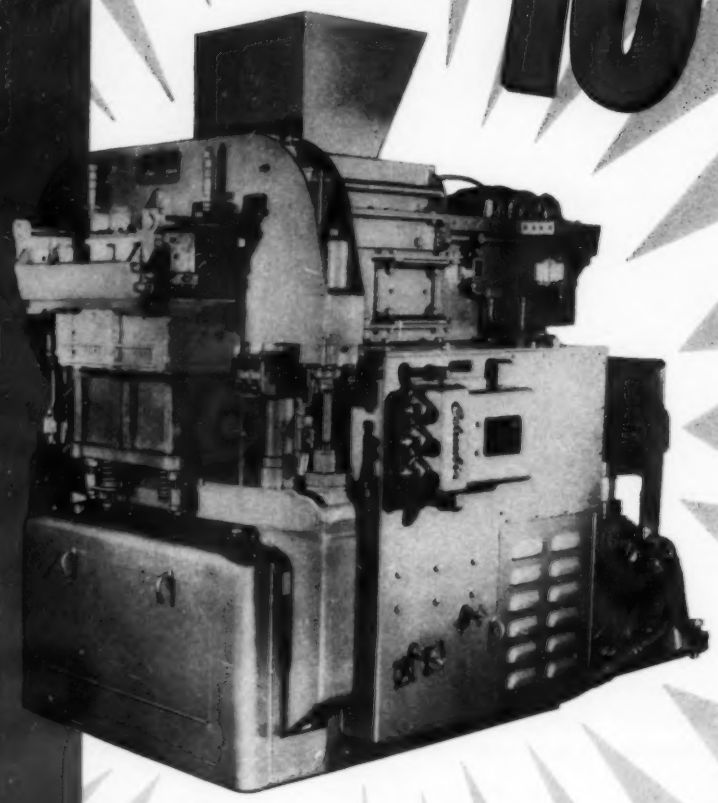
This high production Super Model 10 can be yours on an easy to pay basis. Ask your Columbia representative or write, wire or call us today.



Columbia's newly developed Super Model 10 comes as a result of years of engineering and a thorough screening of suggestions and ideas from hundreds of block plant operators all over the world.

Superior performance of Columbia equipment proves the soundness of Columbia's policy of keeping in close touch with the men in the industry. Columbia's engineering department is determined to produce the equipment plant operators want. Suggestions are always welcomed and given serious consideration.

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FROM THE NEWS DESK

Expanded Clay & Shale Aggregate Producers Report Significant Research Progress At Cleveland Meeting

Election of officers, choice of a site for its mid-year meeting and reports of significant research progress highlighted the annual meeting of the Expanded Clay and Shale Association in Cleveland, January 8 to 10. The association is made up of lightweight aggregate producers from a 10-state area.

Ronald G. Hardy, Onondaga Brick Corp., Syracuse, N.Y., was named president succeeding R. A. Utiger, Cinder Concrete Products Co., Denver. Hardy moves up from the vice-presidency. Mr. Utiger served as president in 1957 and 1958. Melvin G. Cruzen, Light Weight Aggregate Corp., Livonia, Mich., succeeded Mr. Hardy as vice-president. David M. Groves, Shalite Corporation, Knoxville, Tenn., was reelected secretary-treasurer.

Named as directors were the officers and William W. Karl, Lehigh Materials Co., Tamaqua, Pa., Leo A. Scillia, Plasticrete Corp., Hamden, Conn.; Ben Batson, Shalite Corp., Knoxville, Tenn.; W. D. Heney, North Central Lightweight Aggregate Co., Minneapolis, Minn.; A. S. Johnson, Carolina Tuff-Lite Corp., Salisbury, N. C.; B. K. Powers, Virginia Lightweight Aggregate Corp., Roanoke, Va., and Frank Leftwich, Sayre & Fisher Co., Sayreville, N. J.

New York City will be the locale of the ECSA mid-year meeting June 17-20. This will be held in conjunction with the Engineering Progress Exposition sponsored at the Hotel Commodore by the National Society of Professional Engineers and the New York State Society of Professional Engineers. The ECSA will have a display booth in the grand ballroom of the Hotel Commodore at 42nd St. and Lexington Ave.

At the open sessions of the association Cleveland meeting Thursday and Friday mornings, a presentation on the possible application of the Tornado impact crusher to expanded clay and shale reduction was given by Thomas E. Bridgewater, president, Werco Steel Company, Chicago. The handling of highly abrasive material is a familiar challenge to lightweight aggregate producers, he pointed out, particularly from the aspect of cost. Several installations in the crushed stone and sand and gravel industries have shown exceedingly good results. Werco at present is crushing 99 per cent silica at a metal replacement cost of approximately 10 cents per ton. Mr. Bridgewater illustrated his talk with pictures on an opaque projector, after which he answered questions.

A report on "Design Practices for Selecting Proportions for Structural Lightweight Concrete" was presented by L. E. Pfeiffenberger, technical director for the association. This was a preliminary discussion on designs for lightweight aggregate plastic mixes, as performed in the association-sponsored testing program. Following this paper, field practices of producer members and contractors were discussed in an open forum.

A tour of the sintering laboratory and pilot plant of the Dwight-Lloyd division of the McDowell Company at 16300 Waterloo Road, Cleveland, was the feature of Thursday afternoon's session. Association members and guests were escorted by Harold E. Rowen, general manager, Dwight-Lloyd division, and Tom Ban, laboratory director, on an inspecition trip through the Cleveland plant facilities.

Friday's sessions included a talk on "Introducing Lightweight Aggregate in a New Territory," by W. D. Heney, executive vice-president and sales manager of North Central Light Weight Aggregate Corp., Minneapolis. This was a comprehensive report on how a producer goes about the job of acquainting a virtually new area with the advantages of lightweight aggregate.

Techniques employed to tell the business community as well as the general public about a new operating plant, and to familiarize architects, contractors and engineers with the aggregate itself were described. Color slides used by Mr. Heney at the 8th Annual Concrete Conference held at the University of Minnesota in December were included.

A letter from Mayor P. Kenneth Peterson inviting ECSA to meet in Minneapolis at mid-year, also invitations from Roanoke, Va., and Syracuse, N. Y., were read. Decision to meet in New York, June 17-20, was

● R. A. Utiger, Denver, Colo., (left) congratulates his successor, R. G. Hardy, Syracuse, N. Y., newly elected president of the Expanded Clay and Shale Association. Newly elected vice president, Melvin Cruzen, Detroit, Mich., next to Mr. Utiger, looks on along with D. M. Groves, Knoxville, Tenn., reelected secretary-treasurer.

influenced by the wish to cooperate with the silver anniversary convention of the National Society of Professional Engineers.

T. R. Berger, executive secretary, in his six months' report said, "Interest in expanded clay and shale lightweight aggregates has never been higher." He noted that the association "in recent years has demonstrated that trade groups such as this serve as an unequalled medium for reaching a solution to problems that the go-it-alone approach would find much harder of achievement." He added, "the flow of communication among the component membership of this or any association is one of the most valuable aspects of such an organization." Finally, he challenged the producer-members to "look in the mirror critically and make up your minds what you want, where you are going and how you intend to get there."

L. E. Pfeiffenberger, technical director, reported on his attendance at American Concrete Institute and ASTM meetings. He was authorized to attend a conference at Ohio State University March 19-20.

Mr. Hardy in assuming the presidency expressed appreciation of the group to Mr. Utiger for his work in the past two years. The appointments of B. K. Powers as chairman of the Technical Problems committee and W. D. Heney as chairman of the membership committee were immediately announced.

■

National Gypsum May Acquire Huron P. C. Co.

President Paul H. Townsend of the Huron Portland Cement Company has announced that negotiations are being conducted under which Huron would be acquired by National Gypsum Company.

He said that while directors of both companies have agreed on a ratio of exchange of shares of stock under which the cement company will become a wholly-owned National Gypsum subsidiary, there are other details still to be worked out. He emphasized that no changes in Huron Cement's management, personnel or method of distribution are contemplated.

"It is National Gypsum's intention to operate Huron Portland Cement Company as an independent organization," Mr. Townsend said.

PCA Names Staff Of New San Francisco Office

The Portland Cement Association began field service activities in northern California, northern Nevada and Oregon on January 1, with the opening of a San Francisco office and the appointment of personnel to service the areas.

Charles F. Moran, structural engineering specialist, and Robert E. Jones, paving engineer and general field engineer, both formerly of the association's Los Angeles district office, have been assigned to the San Francisco office. A second general field engineer will be appointed soon. They have headquarters in Room 415, Russ Building, 235 Montgomery Street.

Byron E. Jones, paving engineer and general field engineer, formerly of the Los Angeles office, will service the state of Oregon. He will headquarter in Portland, under the supervision of the association's Seattle district office.

Mr. Moran joined the association in January, 1953, as a general field engineer for the Los Angeles district office, and was appointed structural specialist in June, 1956. Prior to joining the association, he served as an associate civil engineer with the Bridge Division of the Los Angeles County Road Department for two and one-half years, and for one year with the Los Angeles Department of Building and Safety.

A graduate of the University of California with a Bachelor of Science degree in Civil Engineering, Mr. Moran served as a first lieutenant in the Air Force during World War II. He is a member of the American Concrete Institute and an associate member of the California Structural Engineers' Association.

Robert E. Jones joined the association as a general field engineer for the Los Angeles office in February, 1953. Prior to that time, he was a civil engineer assistant with the Los Angeles County Road Department for three and one-half years and, during World War II, served for four years in the Navy. He holds a Bachelor of Science degree in Civil Engineering from Stanford University, and is a member of the American Concrete Institute and the California Society of Professional Engineers.

Byron E. Jones joined the association's Los Angeles office as a general field engineer in March, 1956. Before that, he served for five years with the California Division of Highways as both a project leader and assistant resident engineer. A graduate of Kansas University with a Bachelor of Science degree in Civil Engineering, Jones served with the Army Combat Engineers during World War II. He is an associate member of the American Society of Civil Engineers and a member of the City and County Engineers' Association, the American Concrete Institute and the California Structural Engineers' Association.

This extension of services will enable the Portland Cement Association to bring the latest information on the uses of cement and concrete, new design methods and the results of research directly to cement users in northern California, northern Nevada and Oregon.

■

Double-Tee Slabs Form 2,300-Seat Bleachers

The first plantcast, prestressed concrete bleachers in the west were recently erected at Santa Rosa Junior College, Santa Rosa, California. Seating 2300, in 16 rows 230 feet long, bleacher decks are composed of prestressed double tee slabs plantcast by Basalt Rock Company at Napa, California.

Each double tee slab spans 25 feet and is 32 inches wide, and was cast of lightweight expanded shale, rounded particle, aggregate concrete. They were stressed with 4-3/8" seven-wire strands with 14,000 lbs. initial tension for a design load of 120 psf. Concrete had an initial strength of 3500 psi, with 5000 psi after 28 days. Concrete stringers were cast at the site, and placing of all double tees was accomplished in two days. Flat wood seating was then bolted to the double tees.

Bleacher design was by J. C. Felciano, A.I.A., Santa Rosa and Ralph Palmberg, Santa Rosa, was the general contractor. Structural engineers were Graham & Hayes, San Francisco.

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Here's the all new Rack Rust Preventive that actually immunizes your racks against costly rust and corrosion. Guaranteed to triple the life of your racks! Not just a paint or dressing that can chip off or flake . . . Edick's RRP seals every inch of rack surface in a single application. Result? — Air and moisture cannot penetrate this protective seal and your racks are immune to rust and corrosion indefinitely.

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5. Use RRP right now, in any climate or weather condition. Packaged in 5-gallon pails, one pail of RRP will immunize one dozen racks. Guaranteed to protect for a minimum of 1 year or your money back! Order to suit your rust preventive needs now! $3.50 per gallon, F.O.B. Milwaukee.

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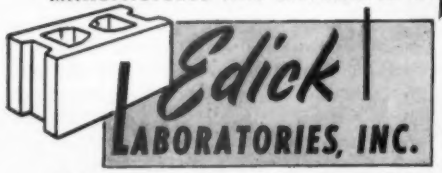

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Master Builders Marks 50th Year With New Home

Wielding a golden shovel, symbolic of the beginning of his firm's 50th year in business, S. W. Flesheim, founder and board chairman turned first earth on December 24, 1958, for the new $3.5 million international headquarters of The Master Builders Company. The 101,000 square foot structure being erected in Cleveland Heights, Ohio, a suburb of Cleveland, will contain general offices and complete research laboratory facilities.

● Executives of Master Builders Company at ground-breaking ceremonies. Left to right are F. R. Hinds, S. W. Flesheim, W. B. Phillips, S. W. Benedict and V. S. Andrews.

The modern, three-story, concrete, glass, brick and aluminum office building is expected to be ready for occupancy in time for Master Builders' 50th anniversary on December 24, 1959.

The building, to be owned by Maylee Realty, was designed by Irving Robinson, architect, and will be erected by the Mintz Construction Company. Completely air-conditioned, the "L" shaped structure will have inside parking facilities for 220 cars.

Commenting on his firm's move, Master Builders' president Stephen W. Benedict said, "We feel certain that these new facilities will make an immeasurable contribution to our customer service program as well as our overall operation."

76,000 square feet of space in the building will be occupied by Master Builders with the remaining 25,000 square feet to be leased to other tenants. More than 165 Master Builders' employees will be working in the new building.

The brief ceremony was attended by Cleveland Heights mayor, Kenneth S. Nash, and city manager Ray P. Martin as well as principals of Master Builders, the Maylee Realty Company, the Mintz Construction Company and architect Irving Robinson. Representatives of firms in the immediate neighborhood also turned out to witness the event.

Also participating in the ceremony were the religious leaders of the three houses of worship in the immediate neighborhood, who delivered spiritual messages during the ceremony.

Master Builders, a division of the American-Marietta Company, is the world's largest producer of admixtures for concrete. Its principal products are Pozzolith, an admixture designed to control the properties of concrete to meet the special needs of the construction industry; Embeco, a non-shrinking grout used in the installation of heavy industrial machinery; Masterplate, a specially designed iron aggregate floor surface; and a full line of maintenance, repair and decorative concrete products.

The firm's products are used widely in the construction of industrial and commercial buildings, turnpikes, airport runways, bridges, dams and other structures.

Officers of the Master Builders Company are S. W. Flesheim, chairman; Stephen W. Benedict, president; William B. Phillips, executive vice president; Thomas M. Kelly, vice president for research; Herbert K. Cook, vice president for engineering; Frank R. Hinds, vice president for marketing; R. L. Mauchel, vice president for international sales; Lane Knight, vice president for Canada; R. G. Ahrens, vice president and controller; and Frank J. Bates, secretary-treasurer.

Master Builders headquarters are now located at 7016 Euclid Avenue, Cleveland. The firm maintains district offices in 57 major U. S. and Canadian cities and in Europe, South America, Asia and the Far East. Manufacturing facilities are located in Cleveland, Buffalo, Toronto, Canada; Antwerp, Belgium; Mexico City, Mexico; Milan, Italy; and Tokyo, Japan.

■

● Artist's conception of the new headquarters of Master Builders Company to be erected in Cleveland Heights, Ohio, to mark 50th year.

AGC Details Its 1959 Construction Estimates

Total construction performed in the United States, after breaking dollar volume records in the face of the general business decline of 1958, stands a good chance of reaching the $72 billion mark in 1959 with a 6 per cent advance, the Associated General Contractors of America said in its annual review and outlook statement issued in late December.

The forecast for 1959 is divided into $52.2 billion in new construction and nearly $20 billion in maintenance and repair, while work put in place in 1958 is estimated at nearly $49 billion in new construction and $18.6 billion in maintenance and repair, for a total in excess of $67.5 billion.

A 16 per cent rise in public construction, featuring increases in every category of state and local public works, with an accent on highways, will dominate the 1959 construction scene. In the private sector, a moderate advance in residential activity and continued high levels of commercial and public utility construction should more than offset a further slide in industrial building and a slight drop in farm construction.

The AGC's annual review and outlook statement estimated that construction of all types in 1958 increased 3 per cent over 1957, and saw increasing contract awards and improving economic conditions as

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REDUCE

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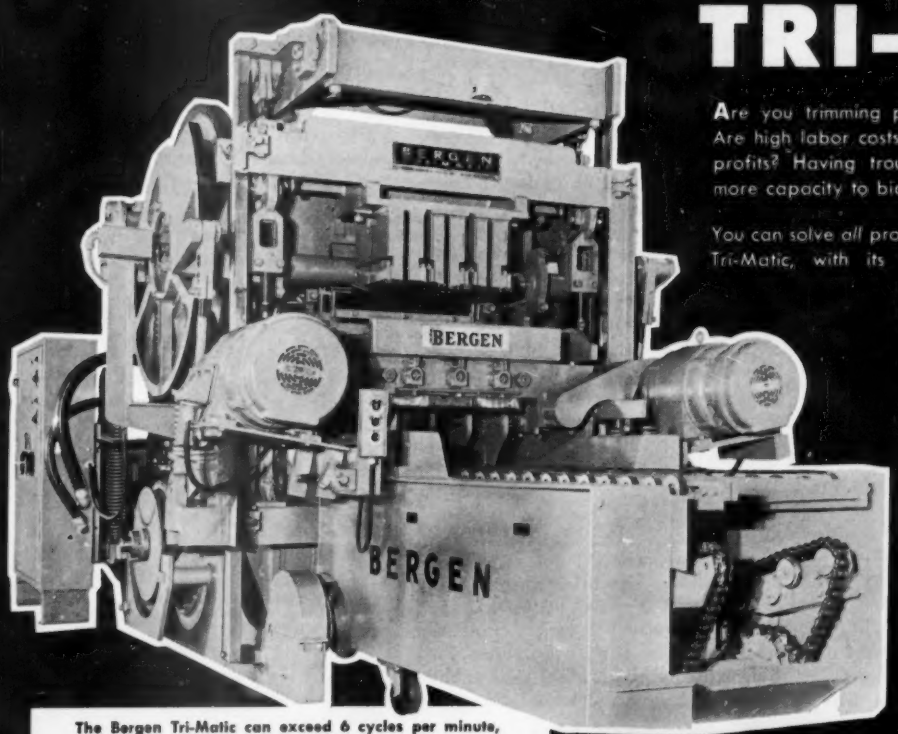

The Bergen Tri-Matic can exceed 6 cycles per minute, producing up to 1100 8" equivalents per hour, day after day, year after year . . . at lower cost per block.

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Bergen manufactures a complete line of Block Plant Equipment—Batch Mixers, Skip Hoists, Off-bearing Hoists, Height and Density Control Panels, Mold Repair Tables, and a full line of mold attachments and replacement parts.

heralding the beginning of a new era of construction growth in 1959.

As forecast by the AGC a year ago, total construction volume in 1958 nearly reached $68 billion, providing the third striking demonstration in a decade of the economic bolstering power during a recession of the nation's largest single production activity, which accounts for some 15 per cent of total employment, directly and indirectly.

Construction increased its proportion of the gross national product — the nation's total output of goods and services — from 15 to 15½ per cent in 1958.

The AGC, representing more than 7,200 leading construction firms of all types throughout the United States which perform the majority of the nation's contract construction, based its outlook on studies of official governmental figures and information from authoritative private sources.

Basic assumptions are that construction costs will not rise inordinately, materials will be plentiful, no prolonged work stoppages will occur in basic industries, and that international complications will not seriously affect economic activity in the United States.

The past year saw the 13th consecutive annual increase in dollar volume of total construction activity, including both contract construction and force account operations.

A high rate of public works and a surge in residential activity in the closing months pushed new construction to nearly $49 billion, 2 per cent above the 1957 total. In terms of physical volume, however, this was offset by an increase in construction costs.

Construction costs, in the aggregate, rose 2.9 per cent during 1958, according to the AGC "Constructograph," while wages paid by contractors increased by 5.6 per cent, and prices of basic construction materials were nearly stabilized.

Keen competition, promoting increased efficiency of operations, was reported by general contractors as a factor in holding down the costs of many types of construction. The government's index of bid prices for federal-aid highway construction declined 3 per cent during the first three quarters of 1958.

For the first time since 1949, private construction, at about $33.9 billion, failed to increase, due almost solely to the sharp decline in industrial building resulting from the slump in plant and equipment expenditures which marked the recession.

Private industrial building fell more than 30 per cent to about $2.4 billion, but was offset by a recovery in residential activity, while the other major business categories held near their 1957 levels.

About 1,175,000 residential units, both private and public, are estimated to have been started in 1958, reversing the decline which characterized the two previous years.

Commercial and public utility construction continued at their high levels of $3.6 billion and $5.6 billion, respectively.

Public construction rose 6 per cent to $15 billion, sparked by an 8 per cent advance in highway construction, which showed the first major effect of the long-range program after the middle of the year.

Major public categories were: highways, $5.4 billion; education, $2.9 billion; sewer and water systems, $1.4 billion; military construction, $1.2 billion; conservation and development, $1 billion, and public housing, $830 million.

The 6 per cent increase seen for 1959 will be the largest advance in four years, and, if past patterns and long-range forecasts by economists hold true, should signal the start of a new era of construction growth, along with a generally prosperous economy.

The extent to which dollar volume of new construction will exceed $52 billion will hinge much on the volatile residential market, which is heavily influenced by credit policies, and on the extent of recovery in the rate of capital expenditures by business.

The major part of the advance will take place in public construction, increasing 16 per cent to $17.4 billion, with a significant spurt in highways, while private construction should increase 3 to 4 per cent to nearly $35 billion.

While the AGC new construction estimate approximates that of the government, whose forecast was $52.3 billion, it differs within the categories. The AGC projects lower figures for residential and farm construction, and higher estimates for industrial building, highways, public utilities, church and school construction.

Here is the outlook for major categories:

Residential — A 7 per cent increase to $19.1 billion in private residential building, and $1 billion in public housing, with upwards of 1,190,000 new units started. How much this rate may be affected by possible Congressional action on housing and credit proposals is a matter of conjecture.

Contract awards indicate a continuing trend of apartment construction toward larger proportions of the residential market.

Commercial — Should continue at the peak level of $3.6 billion, with brisk activity in chain stores and shopping centers.

Religious construction may hit the $1 billion mark for the first time in a 15 per cent advance.

Farm construction is expected to to decline slightly to $1.5 billion.

Public utilities should hold close to their high levels, and possibly increase slightly to $5.5 billion.

Industrial building should decline at a reduced rate, about 10 per cent, to $2.2 billion, due to fewer projects planned in 1958. A pickup in capital expenditures throughout 1959 will lay the foundation for a rising volume of business construction in 1960.

Highways are expected to increase more than 15 per cent under the impetus of the long-range program, reaching $6.2 billion. A continued advance is seen for three or four years.

Public educational building may total $3.1 billion, 8 per cent over 1958, with 74,000 to 75,000 new public school classrooms constructed.

Sewer and water facilities will continue to advance, reaching $1.5 billion.

Military construction, with missile bases in the forefront, may advance from $1.2 billion in 1958 to $1.5 billion.

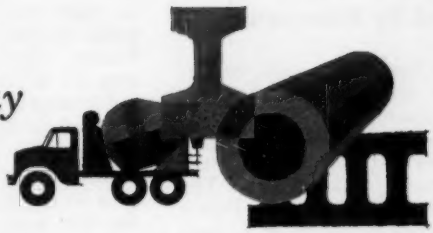
Conservation and development should climb to $1.1 billion, principally from programs administered by the Bureau of Reclamation and the Corps of Engineers.

■

Pardon Our Error

Our attention has been called to an error in our January issue story describing the operations at William Moors Concrete Products, Inc., Fraser, Mich. Both continuous mixers were identified as of the same make. Actually, one is a Volumixer made by Kent Machine Company, Cuyahoga Falls, Ohio.

Here's the practical, proven way to Pre-mix!



THE SMITH TURBINE-TYPE MIXER

If you've wanted to pre-mix, but winced at the cost of converting — here's the answer to your problem!

The Smith Turbine Mixer — proved successful in over 100 installations — is a compact, lightweight, vibrationless mixer that can be easily installed in your batching operation.

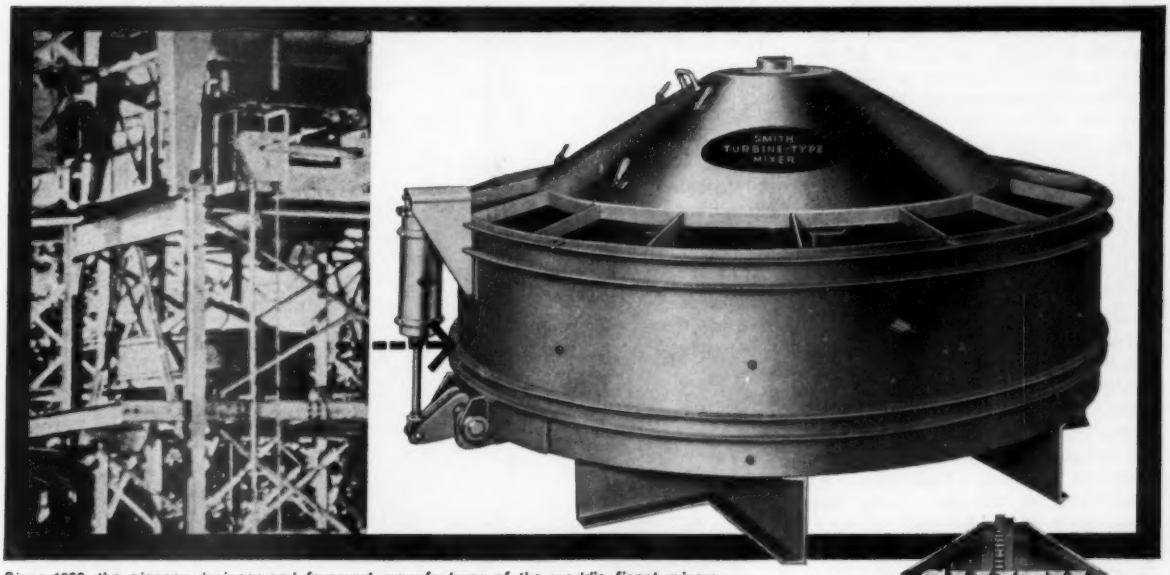
If you're building a new pre-mix plant, use of the Smith Turbine permits lighter, lower, less expensive structures.

If you're converting an old plant to pre-mix, the Turbine can frequently be installed without extensive, major modifications — in places where no other mixer will fit!

Cycle time with The Smith Turbine is fast enough to charge up to 20 trucks an hour. What's more, the Turbine can discharge in four different directions, allowing you to alternate wet and dry mixes — handle ready-mix, block, pipe, or pre-stressed batches all in the same machine.

Investigate the Smith Turbine. Write or call — we'll gladly tell you in detail how others are finding it the ideal way to beat competition while supplying higher-quality pre-mix!

Making dollars and sense in over 100 successful installations!



Since 1900, the pioneer designer and foremost manufacturer of the world's finest mixers

THE T. L. SMITH COMPANY
Milwaukee 1, Wisconsin • Lufkin, Texas
Affiliated with Essick Manufacturing Company, Los Angeles, Calif.

SMITH

Southern States P. C. Co. Absorbed By Marquette

Effective January 1, 1959, Southern States Portland Cement Company, headquartered at Atlanta, Ga., was absorbed by its parent organization, Marquette Cement Manufacturing Company, Chicago, Ill. The Southern States offices in the Fulton National Bank Building will, however, remain open under the Marquette name.

Founded in 1902, Southern States has been a sales subsidiary of Marquette Cement Manufacturing Company since January 1, 1954, when the company, with its plant at Rockmart, Ga., was purchased by Marquette, one of the nation's leading cement producers. Until now, however, the original name has been retained.

■

Buffalo Block Producer To Aid Design Students

A fund of $1,000 a year for scholarships in architecture has been established by Anchor Concrete Products, Inc., Buffalo, N. Y., to be administered by the Buffalo-Western New York chapter, American Institute of Architects, according to an announcement by Fred W. Reinhold, Anchor president.

A check for the first $1,000 was presented by Mr. Reinhold to W. Newell Reynolds, president of the local architect's chapter, at a dinner meeting of the architects, Wednesday, Jan. 14.

Participating in the presentation were John Nobel Richards, Toledo, Ohio, national A.I.A. president, and Trevor W. Rogers, district director of the A.I.A. and a former president of the New York State Association of Architects.

The scholarship fund set up by Anchor Concrete Products is one of the first in the construction industry in the country. Mr. Reinhold also was instrumental in the establishment of a $1,000 scholarship fund for architects by the New York State Concrete Masonry Association, administered by the New York State Association of Architects.

The fund is called the Buffalo-Western New York Chapter, A.I.A. Scholarship Award.

A committee of architects, headed by Thomas Justin Imbs, Buffalo, as chairman, has drawn up rules of procedure for the scholarship. The recipient must be a resident of one of the eight western New York counties within the jurisdiction of the Buffalo-Western New York chapter, and must be a graduate of a school of architecture or architectural engineering accredited by New York State.

The award will be limited to one student a year. The student, who must be under 30 years of age, must use the award for furthering his study or schooling in this country or abroad in a place of his choice. The recipient must use the funds within a year following the award and is to report to the architect's committee once every quarter and once at the end of his term of study. A student may receive the award only once. Unsuccessful candidates may reapply.

Deans of universities in the state will be asked to recommend students whose scholarship would allow them to qualify. Mr. Reinhold said that his company, in setting up the scholarship awards hopes that other companies in the construction industry will do likewise.

■

New Mississippi Cement Plant In Production

Cement made from limestone which underlies the Vicksburg area is starting to roll from the $5 million plant of Mississippi Valley Portland Cement Company.

Organized and launched two years ago, the company is owned by some 6,500 stockholders in Mississippi, Louisiana, and Tennessee.

Although quarry operations and the grinding and preparation of raw materials has been going on since October 20, the first cement clinker was discharged from the giant kiln on January 2. Located on Mississippi Highway 3 about 14 miles north of Vicksburg, the new plant has a rated capacity of 2,000 barrels of portland cement daily. The area of distribution will include portions of Mississippi, Louisiana, Arkansas and Tennessee.

Construction of the new $5 million plant was begun in August 1957 and the plant when in full production will employ 75 to 100 workers with an approximate annual payroll of $500,-

United Concrete Pipe Builds Huge Tester

Believed to be the largest hydrostatic test apparatus of its type ever built, the tester pictured below was designed and built by United Concrete Pipe Corporation for testing two 144" I.D., 24-foot sections of concrete pressure pipe at a time for the Los Angeles Hyperion Treatment Plant effluent ocean outfall, now under construction.

The testing equipment weighs approximately 35 tons with each head weighing approximately 11 tons. Two chain blocks and two 50-ton hydraulic jacks are used to position each head. The maximum test pressure of 53 psi develops a million pound thrust on the heads. Two 100-ton jacks are used to tilt one section for a one degree deflection test which results in approximately three inches difference between the top and bottom of the joint. The tester is adaptable to pipe diameters down to 60".

United Concrete Pipe Corporation is manufacturing over 35,000 feet of pipe at its Baldwin Park and Long Beach, Calif. plants for the Hyperion outfall which is being installed by Hyperion Constructors, a joint venture of DeLong Corp., Healy-Tibbitts Construction Co., Macco Corp., Peter Kiewit Sons Co., Raymond International, and Tavares Construction Co. The project is a part of a $60,000,000 expansion of the Hyperion Plant for the L.A. Board of Public Works.

COLUMBIA CALCIUM CHLORIDE reduces set time, produces stronger concrete products

Chilly spring days and low night temperatures won't effect curing time for your concrete block, panel, and pipe products when Columbia Calcium Chloride is added to the mix. You get normal three-day strength in just one day. Pre-steam holding time, steaming and soaking periods can be safely reduced. Higher production due to accelerated strength means you can trim inventories and still meet delivery timetables. Your production costs are lower too, because breakage and chipping are sharply reduced during early handling.

COLUMBIA CALCIUM CHLORIDE in ready mix pleases your customers

Night temperatures below 70° won't slow up your customers' jobs when you add Columbia Calcium Chloride to their ready mix order. Columbia Calcium Chloride treated concrete sets and reaches strength faster, helps save days on time-tight pouring schedules. Early strength is 50% higher at 72 hours; ultimate strength tests higher, too. Your customers benefit because they can pull forms faster, get finishers on and off the job quicker. Columbia Calcium Chloride works with equal effectiveness in concrete made from normal, air entrained, and high early strength cements. Want a business-building tip? Next time you deliver a load of ready mix, tell your customer it has been treated with Columbia Calcium Chloride.

COLUMBIA-SOUTHERN CHEMICAL CORPORATION

A Subsidiary of Pittsburgh Plate Glass Company • One Gateway Center, Pittsburgh 22, Pennsylvania

DISTRICT OFFICES: Cincinnati • Charlotte • Chicago • Cleveland • Boston • New York • St. Louis • Minneapolis • New Orleans Dallas • Houston • Pittsburgh • Philadelphia • San Francisco. IN CANADA: Standard Chemical Limited

000. Quarry operations are planned for eight hours daily, though providing enough raw materials to keep the plant in operation round-the-clock on a seven day schedule.

■

New Solite Plant To Open In April

A. Cabell Ford, director of sales for the Southern Lightweight Aggregate Corporation, Richmond, Va., has announced the opening, April 1, of a new Solite production plant in Russell, Florida, just south of Jacksonville. It will be the first plant to open under the newly incorporated Florida Solite Corporation, a wholly-owned subsidiary of Southern Lightweight Aggregate.

The plant, which is now under construction, will produce Solite, the lightweight aggregate manufactured by a controlled process and used in Solite lightweight structural concrete and masonry units.

Operating on a twenty-four-hour-a-day, seven-day-a-week schedule, the Russell plant will depend upon the Atlantic Coast Line Railroad to deliver carloads of Solite throughout the state and surrounding areas. A large percentage of these deliveries will be earmarked for block manufacturers, who convert the aggregate into lightweight masonry units. Other carloads of Solite will go to ready-mix plants which use the lightweight aggregate in place of natural aggregates.

The Southern Lightweight Aggregate Corporation, parent company of Florida Solite, has offices in Richmond, Va., Charlotte and Raleigh, N. C., Columbia, S. C. and Bethesda, Md. It now operates plants in Aquadale, N. C., and Leaksville Junction and Bremo Bluff, Va. The Bremo Bluff plant is the largest in the world producing a controlled lightweight aggregate.

■

New Arkansas Cement Plant In Operation

The modern, new plant of Arkansas Cement Corp. near Foreman, Ark., has been placed in operation. The first carloads of "Foreman Cement" started rolling out of the multi-million-dollar plant at mid-December.

W. R. Stephens, president and board chairman of Arkansas Louisiana Gas Co., said the initial orders went in bulk by rail to various parts of the plant's four-state primary trade area, consisting of Arkansas, north Louisiana, east Texas and east Oklahoma. Arkansas Cement is a subsidiary of the Shreveport, La.-based gas company.

The first shipments climaxed a series of test production runs begun in early December. Stephens said the tests were needed to assure that the product meets the most rigid cement industry specifications. Foreman Cement will be sold both in bulk and sack.

The new plant, with a capacity of 1,400,000 barrels annually, will produce all the main types of portland cement, as well as masonry cement. Built by Kaiser Engineers, Inc., of Oakland, Calif., it is one of the most modern cement plants in the U. S.

Huron Portland To Add New Distributing Plant

Approval for the completion of a new cement distributing plant at St. Joseph, Michigan, was granted in late December by the board of directors of the Huron Portland Cement Company.

The new facility, located on the St. Joseph river, will be the cement company's thirteenth distributing plant, according to Paul H. Townsend, Huron president, who made the announcement.

The new plant, located on a five-acre-site will have ten silos with a storage capacity of 150,000 barrels of cement. Bulk and package loading facilities for trucks and railroad cars will be located directly beneath the silos. Like the other Huron plants located throughout the Great Lakes, the new St. Joseph plant will be supplied with cement from the company's mill at Alpena, Michigan, by Huron's own fleet of six self-unloading ships. Completion of the plant is scheduled for early fall of 1959.

■

Army Engineers' Paper Details Air-Content Test

The U. S. Army Engineer Waterways Experiment Station, Vicksburg, Miss., has recently published Miscellaneous Paper No. 6-286, under the title of "High-Pressure Test for Determining Air Content of Hardened Concrete." Copies may be obtained from the director of the station at fifty cents each.

IT HAPPENS EVERY DAY *LATEST RULINGS IN LABOR RELATIONS*

CAN YOU FIRE AN EMPLOYEE FOR GAMBLING OPERATIONS?

PUT A FIN ON BIG JOHN IN THE 5TH AT TROPICAL
GOT YA
HOLY COW!
I'M SORRY SAM. GAMBLING IS ILLEGAL. HERE'S YOUR LAST CHECK.
I'LL APPEAL THIS
THERE'S NO RULE AGAINST DOING FRIENDS A FAVOR.
WE CAN'T PERMIT GAMBLING.
ARBITRATOR'S DECISION
YES, OTHERWISE THE CO. BECOMES AN ACCESSORY TO ILLEGAL GAMBLING.
DISCHARGE UPHELD

Calendar . . .

FEBRUARY 16-18, 1959	Autoclave Building Products Association — 53rd Annual Convention — Commodore Perry Hotel, Toledo, Ohio.
FEBRUARY 16-19, 1959	National Sand & Gravel Association — 43rd Annual Convention — National Ready Mixed Concrete Association — 29th Annual Convention — Roosevelt Hotel, New Orleans, La.
FEBRUARY 23-27, 1959	American Concrete Institute — 55th Annual Convention and Exhibits Statler Hilton Hotel, Los Angeles, Calif.
MARCH 12-13, 1959	Region III, National Concrete Masonry Association — Annual Meeting — Hotel Tulsa, Tulsa, Okla.
MARCH 16-17, 1959	Region IV, National Concrete Masonry Association — Annual Meeting — Biltmore Hotel, Los Angeles, Calif.
MARCH 20-21, 1959	Region IV, National Concrete Masonry Association — Annual Meeting — Olympic Hotel, Seattle, Wash.
APRIL 2-3, 1959	Region V, National Concrete Masonry Association — Annual Meeting — Leamington Hotel, Minneapolis, Minnesota.
APRIL 12-14, 1959	Texas Concrete Masonry Association — Semi-Annual Meeting — Driscoll Hotel, Austin, Texas.
APRIL 23-25, 1959	Texas Aggregates Association and Texas Ready Mixed Concrete Association — 5th Annual Joint Convention — Shamrock Hilton Hotel, Houston, Texas.
JUNE 14-16, 1959	Florida Concrete & Products Association — 5th Annual Convention — Key Biscayne Hotel, Miami, Florida.
JUNE 18-20, 1959	New York State Concrete Masonry Association — Mid-Year Meeting — Rocky Point Inn, Inlet, New York.
AUGUST 10-12, 1959	National Cinder Concrete Products Association — Conference of Lightweight Concrete Block Manufacturers — Chalfonte-Haddon Hall Hotel, Atlantic City, New Jersey.

SAVE UP TO 50 PER CENT OF MIXING COST WITH THE NEW PRASCHAK "GO-DEVIL" BATCH LOADER

Here it is! For operators who do not have overhead bins — the fastest and most economical way to measure materials and charge concrete mixers. The mobile, self-propelled Praschak "Go-Devil" Batch Loader eliminates the need for expensive overhead equipment — takes guesswork from mixer charging — eliminates the hard work involved in shoveling or using wheelbarrows.

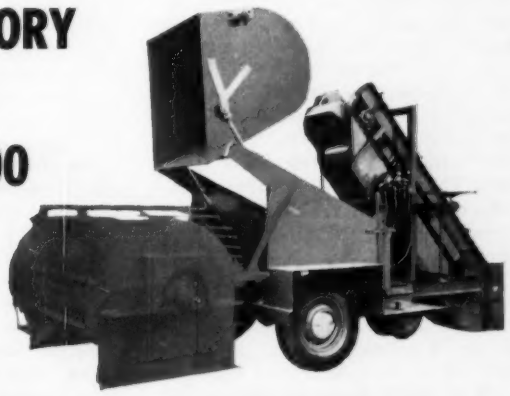
As soon as a batch has been discharged from the mixer, the next batch is started immediately by dumping the measured amount of material from the loader into the mixer. The mixer operator then adds the proper amount of cement to the batch — while this is dry-mixing, he drives the "Go-Devil" to the aggregate piles and loads the correct amount of aggregate for the next batch and returns to the mixer location.

INTRODUCTORY PRICE

$2,400.00

F.O.B. MARSHFIELD, WIS.

WRITE TODAY FOR FULL DETAILS



PRASCHAK MACHINE CO.

MANUFACTURERS OF CONCRETE PRODUCTS EQUIPMENT

P.O. BOX 368 MARSHFIELD, WISCONSIN

News Announcements from Companies Servicing the Concrete Industries

MANUFACTURER'S NOTES

Adrian Peerless, Inc., Adrian, Mich., announces the sale of all inventory and facilities for the manufacture of Wal-Lok to Lenawee Peerless, Inc., a newly formed company headed by Wendall Ladd as president and general manager. The sale was the result of the retirement of J. Roy Briggs, vice president and general manager of Adrian Peerless. The corporate structure was retained because of interests that were not sold to the new company. Mr. Ladd, the largest stockholder of the new company, was with Adrian Peerless since its incorporation in 1947 and at the time of the purchase was secretary and plant manager of that company.

■

Branford Company, New Haven, Conn., has announced the appointment of a member of its board of directors, Randolph L. Ruhley, to the position of vice president and general sales manager of the company. Mr. Ruhley has been active for many years in the industrial vibrator field. At the same time the company announced the transfer of its manufacturing facilities from New Haven to New Britain, Conn., effective February 1. The new address will be 132 Glen St., New Britain.

■

T. L. Smith Company, Milwaukee, Wis., has appointed Richard R. Bains as sales manager for its line of turbine type mixers. Mr. Bains has been with the Smith organization since 1953 as sales promotion manager. Mr. Bains brings wide experience to his new post. Following four years in the Navy as a communications officer, he held positions with E. I. du Pont de Nemours Co. and Gateway Engineering Co. of Chicago, where he was chief engineer and later division manager of the adhesives and coatings division. He holds a B. S. degree in chemistry from Marquette University where he graduated magna cum laude. He also studied mechanical engineering at Northwestern University.

■

Four Wheel Drive Auto Company, Clintonville, Wis., has celebrated its 50th birthday by changing its name to FWD Corporation. The name was changed in order to avoid the misleading connotations of the old name. FWD has not made an auto since 1912 and now makes many types of vehicles in addition to four wheel drive.

■

The Lithibar Company, Holland, Mich., has appointed Congress Supply Co., 219 Congress St., Jersey City 7, N. J., as its exclusive representative for the eastern part of New York state, New Hampshire, Vermont, Maine and Massachusetts, in the sale and distribution of its concrete block making machines, block splitters, concrete mixers, kiln heaters, skip hoists and other items. Congress Supply Co. is owned and managed by T. W. Smith who has long been identified in the northeastern part of the United States in connection with the sale of Erickson lift trucks, boilers, etc.

WENDALL LADD

R. R. BAINS

R. L. RUHLEY

Southern Lightweight Aggregate Corp., Richmond, Va., has appointed Thomas L. Myer as its new sales representative in charge of its office for the Washington, D. C. area at Bethesda, Md. Mr. Myer has been active in the construction and supply business in western North Carolina for the past thirteen years.

■

C. S. Johnson Company, Champaign, Ill., operated since 1930 as a wholly owned subsidiary of Koehring Company, Milwaukee, Wis., has now been made a division of Koehring and is the last of seven Koehring subsidiaries in the United States to drop its independent corporate structure. One reason given for the changeover was that it would bring about a considerable improvement in accounting procedures, particularly in regard to governmental reporting and preparation of tax returns. No change in stock distribution or personnel is planned as a result of the switch.

■

Blaw-Knox Company, Pittsburgh, Pa., has opened new west coast sales and warehouse facilities for construction equipment at 305 Adrian Road, Millbrae, Calif., sixteen miles south of San Francisco. Inventories of certain repair parts and complete machines will be stocked at the Millbrae warehouse to provide faster deliveries for construction equipment distributors and west coast contractors. William J. Conway, who is in charge of west coast sales of construction machinery and equipment, will also supervise warehousing.

■

Motorola Communications & Electronics, Inc., Chicago, Ill., has named Don C. Livingston manager of two-way radio sales in a ten-state southern area. His territory will include the area bounded by New Mexico, Oklahoma, Arkansas, Tennessee and Georgia. He has been with Motorola eleven years in sales and sales management positions in the midwest. He will make his headquartes at Motorola's southern area office, 7138 Envoy Court, Dallas, Texas.

Bucyrus-Erie Company, South Milwaukee, Wis., has announced several distributor appointments. Flack Equipment Co., 1240 McCook Ave., Dayton, Ohio, will distribute Hydrocranes, Hydrohoes and Hydroshovels in 14 Ohio counties, 3 Kentucky counties and 5 Indiana counties. Construction Service Equipment Co. of 21st & Pacific Sts., Omaha, Nebr., and 10th & Vine Sts., North Platte, Nebr., has added Hydrocranes to its Bucyrus-Erie line. Territory includes parts of Nebraska and Iowa. Part of the territory presently covered by Sim Grady Machinery Co. of Macon, Savannah and Chamblee, Ga., has been transferred to the territory of Power Equipment Co., Knoxville, Tenn.

■

Leschen Wire Rope Division, H. K. Porter Co., Inc., St. Louis, Mo., has named J. Gregory Tierney sales representative in its Indiana, southern Illinois and western Kentucky territory. Mr. Tierney has been with the City Engineers Department of Indianapolis as superintendent of maintenance for the Board of Flood Control Commissioners and has a background in heavy construction equipment. His home is at Indianapolis, Ind.

■

Sika Chemical Corp., Passaic, N. J., announces the promotion of two of its engineers and the appointment of a third to offer increased technical information and service to its clients in the concrete construction industry. R. A. Jessen, formerly midwestern division manager, becomes chief engineer at Passaic. J. Wayman Williams, Jr., an engineer in the technical service department for the past five years becomes manager of technical service. Robert K. Lockwood joins Sika as advertising manager after ten years of service on the staff of the American Society of Civil Engineers.

■

Marquette Cement Mfg. Co., Chicago, Ill., has promoted Samuel B. Webb, Jr. to the position of director of operations. He was formerly assistant director. Mr. Webb joined Marquette in 1950 as assistant chemist at its Oglesby, Ill., plant. Later he was chief chemist at Marquette's Brandon, Miss., plant and superintendent there in 1954. In 1957 he was transferred to company headquarters in Chicago as assistant director of operations.

■

American Cement Corporation, Philadelphia, Pa., has purchased more than 1,500 acres of land in Amador County, Calif. The acquisition consists of a large tract of limestone at Volcano, a clay deposit, with an alternate plant site near Ione. These new holdings, according to D. S. MacBride, president of American Cement Corp., are located approximately 35 miles southeast of Sacramento and constitute another logical step in American's policy of extending and broadening its operations in new and growing markets.

■

Marquette Cement Mfg. Co., Chicago, Ill., has named Carl L. Morris assistant director of engineering. He is a graduate of the Colorado School of Mines and was formerly associated with Basic Chemical Corp. and Climax Molybdenum Co., a division of American Metal Climax.

■

Carolina Solite Corporation, a wholly owned subsidiary of the Southern Lightweight Aggregate Corp., Richmond, Va., will build an additional kiln at its Aquadale, N.C., plant. This new addition at Aquadale will increase production to equal that of Solite's Bremo Bluff, Va., plant, now the world's largest producer of lightweight aggregate.

■

Alpha Portland Cement Co., Easton, Pa., has promoted Frank B. Marcon to manager of its Catskill, N. Y. plant, replacing J. A. Anderson, resigned. Mr. Marcon joined Alpha in 1954 as plant engineer at Catskill. A year later he was transferred to the Martins Creek, Pa., plant and in 1956 he returned to Catskill as assistant superintendent.

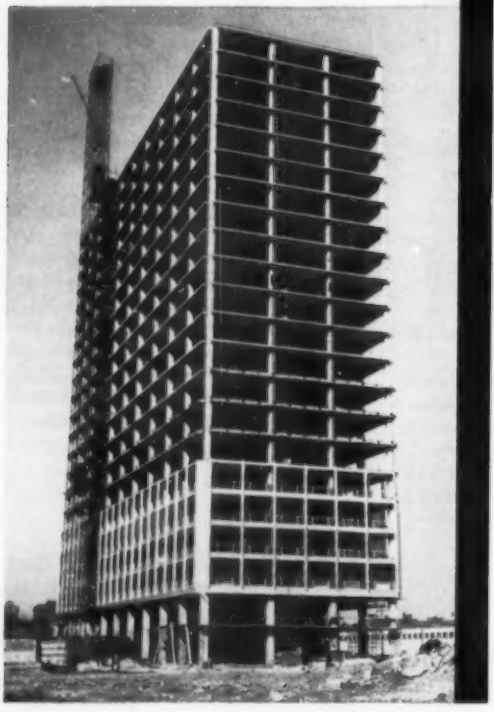
as in Detroit Today . . .

NATIONAL BANK BUILDING
Arch. — Albert Kahn Assocs., Detroit; G. C. Superstructure—Bryant & Detwiler Co., Detroit; G. C. Sub-structure—Case Foundation Co., Roselle, Ill.; POZZOLITH Concrete — Cronin Transit Mix Co., Detroit; Precast POZZOLITH Lightweight Concrete Panels — Adams Concrete Products Co., Ypsilanti, Mich.

GREYHOUND BUS TERMINAL
Arch. — Arrasmith & Tyler Assocs., Louisville, Ky., Assoc.—Clair W. Ditchy, Royal Oak, Mich.; Struct. Eng. — Ray Covey, Detroit; G. C. — Bryant & Detwiler Co., Detroit; POZZOLITH Concrete — Cronin Transit Mix Co., Detroit.

INTERNATIONAL BUSINESS MACHINE CORPORATION
Arch. — Pedersen & Tilney, N.Y.C., Assoc. — Swanson & Assocs., Bloomfield Hills, Mich.; Struct Eng. — Edwards & Hjorth, N.Y.C.; G. C.—R. E. Dailey & Co., Detroit; POZZOLITH Lightweight Concrete — Koenig Coal & Supply Co., Detroit.

LAFAYETTE PARK BUILDING
Owner—Herbert Realty Co., Inc., Chicago; Arch.—Mies Van Der Rohe, Chicago; Struct Eng.—Frank Kornacker, Chicago, G. C. — Herbert Construction Co., Chicago; POZZOLITH Concrete—Cronin Transit Mix Co., Detroit.



CONVENTION HALL AND COBO EXHIBIT BUILDING
Owner—City of Detroit; Arch. & Eng.—Giffels & Vallet Inc., Assoc.—L. Rossetti; G. C.—O. W. Burke Co.; POZZOLITH Lightweight Concrete—Sugden & Sivier, Inc.—all of Detroit.

Where there's progress there's POZZOLITH *Concrete*

The designers and builders of these fine structures employed POZZOLITH* to obtain concrete of superior quality most economically.

For many years in Detroit and throughout the country, where careful attention is given to concrete performance and costs, the use of POZZOLITH has been steadily increasing.

You will also benefit by using POZZOLITH, because on *your* job, with *your* materials, neither plain concrete nor concrete with any other admixture can match the results obtained with POZZOLITH.

* POZZOLITH—registered trademark of The Master Builders Company for its concrete admixture that reduces water, controls air entrainment and controls the rate of hardening.

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THE EDITOR'S PAGE

DOUGLAS LEE

The Future May Be Opening Up

Block producers at the NCMA meeting in Cleveland were forcefully reminded that the general public still rates concrete masonry rather low as an acceptable material for exposed work in home building.

Hearing the results of a study made by J. Walter Thompson Company, advertising agency for the Portland Cement Association, block producers were told that while consumers recognize and appreciate the strength and durability of concrete masonry, they consider it cold, colorless, impersonal and damp and would use it in housing only below grade where they are acquainted with its past use. They are not sold on its attributes as a colorful, enduring, versatile design material.

Considering the time, effort and money that has been spent over all these years to promote the very attributes of our product that the consumer still doesn't recognize simply validates the conclusion that many in our industry reached a few years ago — that we would never get anywhere trying to make the home-buying public accept the limited varieties of exposed walls that could be built with standard units.

Only since we began experimenting with other shapes and combinations of shapes have we begun to catch the fancy of the consumer in the home market. Half-heights, stacked bond, partially recessed faces, split block — all of these and their many variations finally seem to be leading concrete masonry in the directions we have tried so hard for so long to make it go.

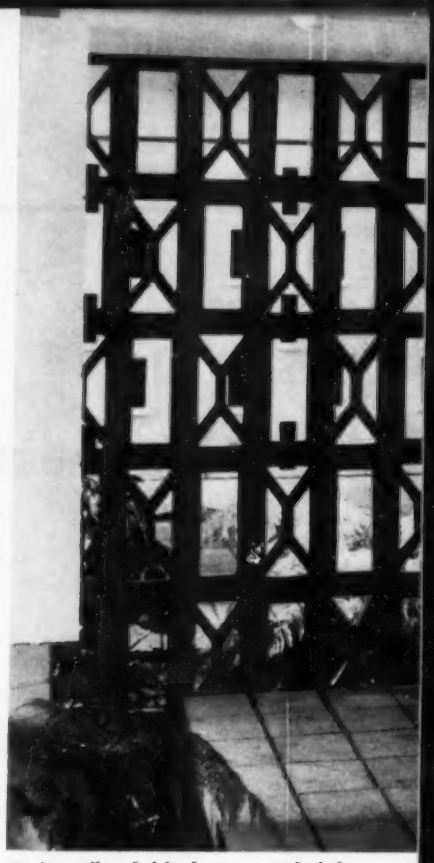
And, in Cleveland, at the NCMA Pavilion and in other exhibits, we saw with breath-taking clarity the lengths to which imaginative minds could go in design with shapes of our product that can be mass-produced with relative ease.

Given adequate and consistent national and local promotion, over a reasonable period of time, we believe we can capture a steadily increasing share of the home market with our newer varieties of products.

It is to be hoped that the enthusiasm shown and the inspiration received will be retained by the block producers who were in Cleveland and will spread to others who weren't there. If that spirit materializes and persists on a wide enough scale, we will yet see the day when another evaluation of public attitudes will show entirely different results.

- Exhibition
- Automation
- Promotion

Draw 4,610 Visitors to NCMA Convention



● A walk of block, surrounded by

"To install automation or not to install automation," this revision of a portion of the familiar quotation from "Hamlet" sums up the views of a large number of the producers who attended the just-past NCMA convention and biennial show. In all 4,610 people registered for the 4-day-long affair, held at Cleveland's Public Auditorium, Jan. 12-15.

● President Henry C. Quaritius, Jr., (left) receives the gavel from retiring president Carroll Strohm, Jr.

Prior to coming to Cleveland, many producers had been mulling the question of automation over in their minds; a number of them made their decision while there, helped by the machinery and equipment manufacturers' personnel at the booths and in the hotel rooms. Other producers left the show without having made up their minds and are still asking questions about automation.

Another question, something like "Can block, in the hands of a good architect and mason contractor, be laid up in an attractive wall?" was pretty well answered for all time by the NCMA pavilion which decorated the lower floor of the exhibit hall. Here, lights, green plants and a pool of water helped to set off the striking, tasteful and decorative uses of ornamental and regular block. A number of the panels displayed screen and grill-work effects; others had block projecting, or recessed, or turned on end; facing out front was a panel with the letters C.I.E., for Concrete Industries Exposition, formed by projecting end block painted with a contrasting color. Anyone visiting this pavilion couldn't help but be made aware of the vast possibilities with the products of the block industry.

Participating architects who came forth with design know-how for this pavilion were: Marcel Breuer, New York; Mario J. Ciampi, San Francisco; George F. Hellmuth, St. Louis; Jones and Emmons, Los Angeles; James Rogers Lamantia, Jr., New Orleans; Richard M. Bennett, Chicago; Victor Lundy, Sarasota; Alfred B. Parker, Miami; and Paul Rudolph, New Haven.

Coordinating architectural firm who molded the panel designs into a unified show piece and a proud display of block construction was Robert A. Little & George F. Dalton & Associates of Cleveland.

Quite naturally a large share of the attention of this year's convention and exhibition was centered around the various manufacturer's products on display on the exhibit floor—these ranged from big block machines and truck mixers down to little samples of cross-shaped rubber inserts for control joints. During the time the show was open, there was always a crowd of interested onlook-

water, leads visitors into this handsome block display of the NCMA pavilion at the Cleveland exhibition.

ers walking the floor, talking to friends, peering into pieces of machinery, or handling those items small enough to pick up conveniently.

The meetings, too, were well attended, though a producer, to get from the show to the meeting halls and vice-versa, had to walk up, down, and around the extensive corridors of the huge auditorium.

Automation, construction outlook, promotion, coloring in concrete block, block plant management, safety, state and area associations, these were some of the topics given attention during the meetings. Then, too, there were the various business aspects of running the NCMA.

The new president elect is Henry C. Quaritius, Jr., president of Nailable Cinder Block Corp., Brooklyn, N. Y. He took over the gavel from Carroll Strohm, Jr., secretary-treasurer and general manager, Nashville Breeko Block & Tile Co., Nashville, Tenn.

Vice presidents for the coming year are: Region I, T. K. Nitterhouse; Region II, Franklyn L. Williamson; Region III, Max H. Miller; Region IV, Elmer A. Peterson; Region V, L. R. Kennedy; and Region VI, Carl F. Spickelmier.

The new directors are: Region I, Victor Kjellman; Region II, Fred H. Smith; Region III, Noel D. Harter; Region IV, Verne Frese; Region V, Thomas W. Powers; and Region VI, James L. Mills. Appointive directors are Edmund J. Brooke and J. C. Ehle.

Automation

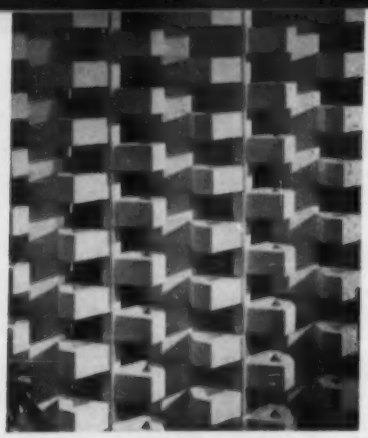
Though the subject of automation was interspersed in many of the meeting programs and, as previously mentioned, a topic of extreme interest on the exhibition floor, the subject received its major emphasis during a panel discussion on "Automation in Block Plants" and in a talk by Paul Bronson, entitled, "Evaluating Lower Costs by Automation."

Panel members were R. O. Davis, Gene Olsen Corp.; John Fellabaum, National Cement Products Co.; Russell E. Ferrer, Allco Automatics, Inc.; Claiborne H. Kennard, Franklin Concrete, Inc.; H. C. Lutes, Layrite Products Co.; Walter Schutt, Stearns Manufacturing Co., Inc.; Robert Woelk, Besser Co.; and Paul Thomas, Superlite Builders Supply Co. Panel Moderator was Ralph Reiner, Cleveland Builders Supply Co.

Initially, the panel members spent a few moments describing already-existing automation in plants around the country. The balance of the time was spent in answering questions from the floor.

Most of the panel members agreed that automation on the batching and mixing floor was a sound investment, considering the purchase cost, shipping and maintenance expenses, of the control systems presently marketed. Within a reasonably short time after the system is installed and working, a producer should be able to recoup investment through the elimination of labor.

Most of the panelists were in agreement that the next most profitable place for automation was at the cubing station. Here again, it was fairly easy and comparatively inexpensive to supplant some labor with machines. Also, hand cubing of block is back-breaking work and is accompanied with a high incidence of accidents and broken or chipped units. Both



» Pavilion Wall Designs «

these production hazards could be materially lessened by incorporating automation in the cubing area.

As to the efficacy of rack loading and unloading equipment, considering the higher relative costs involved, the panelists were somewhat varied in their opinions. Mr. Kennard, perhaps, summed up the expressions of the majority of the eight panelists. He said that automation in this area of block plant operation couldn't really be considered just in terms of the labor savings—initial and continuing costs could scarcely be justified if this were the only consideration. Instead, the producer considering this investment has to evaluate efficiency of machines over man power, higher and longer rate of continuous production, reduced number of culls, etc., plus the probable reduction in labor force. Mr. Lutes stated that, at his plant, production from a machine equipped with rack loading and unloading equipment was averaging an increase of 1,000 more block per day.

In answer to a question from the floor, panelists were quick to state that automation required a somewhat-changed labor force, in that the men working with these more complex pieces of machinery should have certain skills, which takes them out of the common labor class.

Automation to and from curing, the next area considered by the panelists, has some problems that have to be worked out by machinery manufacturers. Opinions expressed indicated that this was one of the problems presently being tackled.

Mr. Thomas, Superlite Builders Supply Co., Phoenix, mentioned some of the interesting specially-designed innovations incorporated at his extensive plant, including rack unloading and cubing machinery.

Mr. Thomas' analysis of most areas of block production boiled down to a simple movement of X number of pounds of material from one point in the plant to another, and then from this second point to still another. With this in mind he attempted to devise the least costly method of achieving this movement. A couple of points stood out. Instead of a lift truck working with one rack at a time, Superlite's racks are welded together in pairs and moved around the plant two at a time. This required heavier-duty lift trucks; but time, number of lift trucks, and man power were the savings. Mr. Thomas also mentioned that his fork trucks out in the yard were large enough and heavy enough to handle two cubes at a time, rather than just one. He went on to say that Superlite presently was in the process of changing fork trucks so they could handle three cubes at a time.

EVALUATING AUTOMATION COSTS: One of the most significant talks of the entire four-day program came at the tail end of the Management Conference session, the last day of the convention. Paul Bronson, Best Block Co., Milwaukee, told how his plant used "block per man hour" to determine the value of installing automatic equipment. *(Editor's note: because of the timeliness and significance of Mr. Bronson's talk, we are publishing his speech in this issue of the magazine).*

Construction Outlook

A vast upward-climbing future was the prediction of most men who tried to view construction the next 10 years.

Architectural Forum's executive editor, Joseph C. Hazen, noted that his magazine's forecasters predicted a population jump over the next decade —10 years—of 35 million people in the U.S. The population would zoom from its present 175 million up to 210 million. During the same decade the gross national product would jump from today's approximately $440 billion up to something around $650 billion.

The construction industry's share of this $650 billion GNP, Mr. Hazen predicted, would be at least 11 per cent, or a figure close to $75 billion; this compares with last year's new construction figure of something over $48 billion. This $75 billion figure of a decade from now divides, according to Mr. Hazen's magazine's estimate, into a 43 per cent increase in residential construction over the present (1.5 million housing starts per year will become the usual); industrial construction will jump from its present $2.8 billion to approximately $6.2 billion annually; school construction will increase 52 per cent; and significant increases will come in the other areas where block presently is being used: stores, churches, hospitals, etc.

Promotion

The answers to the question of whether or not block would play a significant role in this expanding construction picture were mostly "yes," followed by a number of couched "ifs." The big "ifs" were in the two large categories of research and promotion.

Mr. Hazen's "ifs" came in the form of three things the individual block producer and block producers collectively must do: "(1) make it (block) better; (2) make it better looking; and (3) make the betterments better known."

"MAKE IT BETTER!" This includes, of course, continued and increasing research and development to produce a better block. Mr. Hazen also noted that though the care of block on the job site and the workmanship while placing block in the wall are not the

specific responsibility of the block producer, whatever faults showed up were often hung as an albatross around the producer's neck.

"MAKE IT BETTER LOOKING!" Here, imagination and good taste are important, according to Mr. Hazen. The regular rectangular face of block is the usually viewed surface, and without relief it can become monotonous. Turn the block on end, though, and you have something entirely different. Now turn it on its side and you have, again, a different view. (It was this spirit of the new and different—textures, projections, colors, variety—that made the NCMA pavilion a feature attraction at the convention).

"MAKE THE BETTERMENTS BETTER KNOWN!" With a better wall and a better looking wall, now go out and tell the contractors,, builders, lenders, architects, engineers, and home buyers about the improvements in block wall construction and the beauty of such construction. Mr. Hazen suggested some ways to put this across: (1) local demonstration projects; (2) a good service staff to supplement your sales force; (3) more calls on the local architect; (4) institutional promotion of block, as opposed to always a hard sell of your product in competition with the product of your competitor; and (5) more local and national advertising.

Numerous elaborations were made on Mr. Hazen's point of local demonstrations. Richard N. Jones, advertising sales director, *House & Home*, said, in effect, get out and sell with a model home as the first line of attack. Work with the builders in your areas; their model homes, which are rent-free showrooms for the products built into the structure, each year, sell most of the output of the bathtub manufacturers, the electrical appliance manufacturers, and the lumber mills. These same model homes could, if effectively used, sell a major portion of the block industry's annual production.

Proof of the effectiveness of selling concrete block through the use of model homes was demonstrated by Otto Buehner, Buehner Block Co., Salt Lake City. Back in 1947-48, when the company first decided for such a venture, concrete block was not readily accepted by either the FHA or the buying public in the Salt Lake area. With the house up, the company invited a cross-section of the home-buying public, newspaper people, FHA officials, etc., to come out and view and tour the structure. As they left visitors were asked to fill out opinion cards. These, then, were summarized and shown to the skeptical officials. Result, the company gained acceptance from the FHA and buying public for: (1) exposed concrete masonry exterior and interior walls, (2) perimeter heating, (3) concrete slab floors in a cold weather area, and (4) insulation of exterior walls.

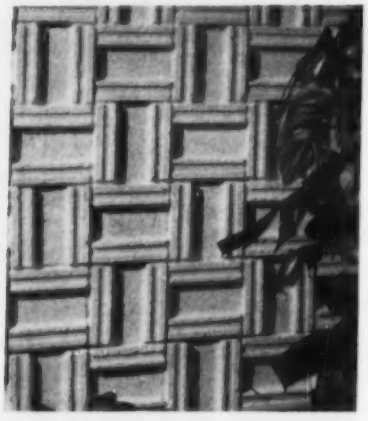
This first project, some 10 years ago, was an inexpensive home—of the variety needed in vast quantities following the war scarcity. But, Mr. Buehner cautioned, the home-buying

● Marking the concrete masonry industry's 40 per cent downturn in accident rate are these men from a number of the NCMA safety-certificate winning plants. 56 plants went through the 1958 contest period without an accident.

● V. Paturzo (left) presents 5-yr. safety trophy to G. Briggs and L. Sponner, Northwest Concrete Products Co.

● Representatives of state, area, and national associations gathered together one afternoon to discuss mutual problems.

● Chart, held by Joseph Hazen, compares 1958's construction with 1968's.



« **Pavilion Wall Designs** »

picture has changed substantially since 1948. Now the need is for larger, more-expensive homes. Producers considering the model home as a promotion should be selective about the builder. The home should exude quality and style, and the interior furnishings should be chosen with care—preferrably by a top-notch interior decorator. The surroundings—the yard, lawn, fences, patio, swimming pool, planters—make the "stage" for the house; select and build an attractive setting, then keep it that way. Interior merchandising displays and literature should be of the best quality obtainable.

Both Max Miller, United Cement Products Co., and H. O. Whiteside, J. Walter Thompson, projected similar conclusions while discussing promotion of block to gain more of the housing market.

Mr. Miller, in asking the question, "Block Is Ready for the Future—Are You?" stressed the fact that a survey had revealed the fact that block, in the housewife's mind, has the connotation of being suitable for basement work and cheap, row project housing, rather than in houses of taste and distinction. To alleviate this hold-over impression, Mr. Miller suggested that the producer treat his product with more respect, make a steadfast endeavor to get his block into the higher-priced homes, put uniforms on the truck drivers. In other words, do what's necessary to make people view your block as something more than just a utility product.

Mr. Whiteside, in discussing "What People Really Think about Concrete Masonry Homes," reported the results of a motivation study J. Walter Thompson conducted for the PCA. Not too favorable, the results showed that those surveyed didn't think too much of concrete masonry in housing. In materials, the public seeks durability, comfort, and cost — in just about that order.

Brick is the favored material for housing; it's well known, durable, attractive, wears well, and is relatively inexpensive. People associate brick with quality.

Wood construction ranks both at the top and the bottom; it's associated with both quality homes and the shacks.

Steel and aluminum have the connotation of factories, industries, and large office buildings.

Consumers recognize the advantages of concrete masonry—strength, durability, etc.—but view it as damp, cold, and impersonal. They are not sold on its possibilities as a material for exposed work above grade.

As a result, PCA consumer advertising for concrete masonry will be formulated to convey the ideas of color and beauty and will utilize pictures of homes built of block.

Coloring Concrete Block

Though Morton Treade's talk, "Coloring Pigments and Their Use in Concrete Products," was a technical discussion of the various inorganic agents available for coloring concrete, his opening remarks fitted closely into the needs of the concrete masonry industry if it is to gain a larger percentage of the housing market. The consumer, as evidenced by the PCA survey, needs to be shown that concrete block construction can have color and beauty. Providing integrally-colored units is a step in the right direction.

Mr. Treade said that most color pigments, particularly the iron oxides, are durable, easy to incorporate, and colorfast. He went on to mention some of the color pigments available — yellows, reds, browns, grays, greens, blues — the costs of the coloring agents, and the approximate ranges of loadings.

Color pigments, he cautioned, should be added by weight, not by volume, to the dry ingredients in the mixer. Mixing time suggested was four minutes in the dry state; then water should be added and the mixing continued for another four minutes.

With autoclave curing of colored units, there is a loss of color intensity, particularly with yellows. He suggested this could be corrected some what, by adding more of the coloring pigment and allowing the block to preset longer.

But in the field, apparent loss of color is not from fading; rather it's from weathering, which exposes more of the aggregate, and from efflorescence.

Association Research

Henry Toennies, NCMA development engineer, presented a summary of the data from the Association's continuing study of shrinkage test methods. From a comparison of shrinkage results of similar units subjected to the reference and modified British shrinkage test methods, NCMA concluded that the modified British method is the better of the two. Though the results obtained using the two methods differed somewhat, the variation was ascribed to carbonation of the units dried by the reference method.

R. E. Copeland, director of engineering, NCMA, detailed the Association's test results using various ASTM designated portland cement lime mortars and masonry cement mortars. Of the two groups, the portland cement lime mortars produced the best bond, but neither group produced a bond that was strong enough to produce a satisfactory wall. The result, according to NCMA, is that

mortar joints are often the weak point in a wall and provide an area of leakage.

Mr. Copeland suggested the possibility that with a stronger joining material panels of block could be factory fabricated and trucked to the job site.

Local Associations

How to gain more co-operation and co-ordination of work effort between associations was certainly one of the main discussion topics at this meeting of local association personnel. And, as found out by one state association secretary, a knowledge of the pitfalls experienced by other, older and now well-established groups can be of invaluable aid.

With C. A. Sirrine, Michigan Concrete Masonry Association, acting as temporary chairman, and Walter Underwood representing NCMA, the other states with personnel present were: Florida, Kansas, Minnesota, Nebraska, New Mexico, Ohio, Pennsylvania, Texas, Washington, and Wisconsin.

Some of the valuable suggestions and ideas that probably will receive attention as an outgrowth of the meeting were:

PROMOTION: The NCMA hopes to be able to send a list of national promotion pieces to all local associations. Walter Underwood mentioned that he wanted to institute a round table letter to go to the local associations. It was suggested that the locals send lists of their promotion material to the NCMA and that this list be combined and redistributed.

ASSOCIATION PITFALLS: The consensus was that holding state or area association meetings more often than every other month presented too many problems, among them the problem of continuously offering good speakers and keeping attendance up sufficiently to warrant procuring capable and interesting speakers. Technical problems committee meetings, workshop sessions, management sessions, taxes, these are all good subjects to sustain interest and keep attendance up at local meetings.

PERSONNEL: Ray Minette, Berthelet Fuel & Supply, Milwaukee, suggested that those local groups with insufficient funds to hire a full time executive secretary investigate the possibilities of hiring a retired concrete products producer, or someone else closely associated with the industry in the past, to work part time on association activities.

FUTURE ASSOCIATION MEETINGS: With this beneficial start, it was decided to try to schedule a meeting of local association personnel as a part of future regional and national association gatherings.

Management Conference

As a prelude to this session, Med Serif, editorial supervisor of business research and education, Cities Service Oil Co., made the statement, "Only smart men sell at a profit." And, he continued, a profit comes only when "a business is well managed."

MARKETING: Both the aspects of salesmen and advertising were discussed by panel members, who included moderator Frank T. Dooley, Texcrete Co.; Gifford W. Dundas, Dunclick, Inc., and M. E. Rinker, Rinker Materials Co.

On salesmen, Mr. Rinker said first the producer has to ask himself, "What kind of salesman is needed; what will he need to know; where can this individual be found; how much should he be paid; and whom is he going to sell?"

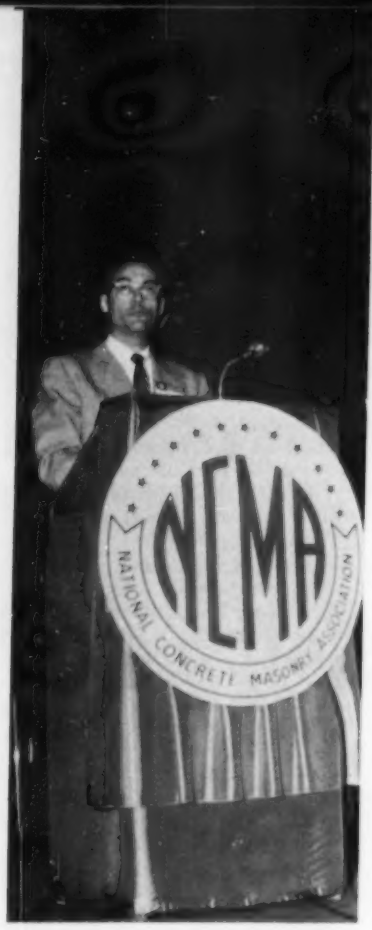
Mr. Rinker, in partially answering these questions, said that the producer should, above all, get a salesman who can sell. . . The salesman should know about the product and the company, and the best place to find such a person is in your own organization. If you can't find him here, then hire a local man who is familiar with the local situation and the people in the area.

On advertising, what seemed to be Mr. Dundas' most important point was that advertising and the advertising budget should be planned. Set a realistic future pattern of sales; then develop the advertising budget necessary to achieve these sales figures.

FINANCE: Developing comparative

(*Continued Page* 35)

● Three views of the exhibition: the two, at left, are of the lower floor and the one, above, is of the upper floor. Notice the crowds that are milling interestedly around the various booths and displays. A total of 4,610 people registered for this year's NCMA convention and exhibition at Cleveland.



● Paul Bronson, speaking at the NCMA convention, showed how Best Block Co., Milwaukee, used "block per man hour" to evaluate savings from automation.

Evaluating Lower Costs by Automation

By PAUL BRONSON

Two years ago our company began making preliminary plans for the construction of a new block plant. We knew that the block machinery manufacturers were on the verge of some important developments toward the completely automatic plant. Naturally, one of our main concerns was the fact that all of these new developments were coming at one time and that it would take several years in the field before this machinery was fully perfected. During this trial period we knew that there would be many, many changes and improvements in the equipment and also changes in the price of this machinery. The two years of planning have been ones of complete frustration and anxiety while we waited and watched for new developments. During this period of waiting, I visited a number of NCMA plants in various parts of the United States. It was interesting to see that some of our very progressive members had not waited for the machinery suppliers and had already developed loaders, unloaders and cubers themselves and that this equipment was doing an excellent job for them.

One of the first things I learned as I traveled and talked to different producers was that we had no common base to compare cost figures. In our own operation, we have, for many years, used blocks per man hour as a method for evaluating the efficiency of our plants: that is, the number of 8-in. equivalents divided by the number man hours worked. To us 8-in. equivalent meant the number of pallets of blocks produced multiplied by three. I found that 8-in. equivalent meant tons of material divided by the weight of an average 8-in. block to one concrete masonry producer, while it meant something else to another. The total number of hours worked, used by many plants, did not include people that we include in our figures. I hope that the new Management Information Committee and the Technical Problems Committee will be able to establish a standard method of keeping plant production efficiency records so that member plants can evaluate their own efficiency records with other plants having similar productive capacity.

I firmly believe that when the time comes that we can sit down with our local competitor and talk about ways to improve our product and our efficiency through the exchange of information, rather than by reducing prices, then we will be able to make the profit necessary to buy the proper equipment to produce better concrete masonry units at lower costs.

With the impact of automation staring us in the face, we must intelligently compare the cost of this equipment and accessory items with the actual labor savings in dollars and cents. Here are some of the questions that this statement raises: Does the automatic batching equipment eliminate a man or must there be a supervisor that has to watch and adjust it during the day? Does the loader, the unloader, and cuber actually replace men or do they just make the work easier? These and many other questions must be answered before the block producer can make the choice as to whether he should or should not make these large capital investments.

In many cases because of the short time that automation has been in use in block plants, the machinery manufacturers themselves have not had the opportunity to evaluate the cost of

their equipment against the actual saving in dollars and cents to the block producer.

The average NCMA member does not have the opportunity to visit all the plants in the United States to determine the type of equipment he should use. Even more so when considering automation, NCMA members need cooperative information that would be available if we had a standard method of reporting efficiency and other statistical information. This could give members the opportunity to properly evaluate the savings offered by such equipment, without the necessity of personal visits to a larger number of plants.

Permit me to show you how we would use our production efficiency records or "Blocks per Man Hour" in evaluating automation from a cost saving standpoint. Let us assume that we have a one machine block plant that uses only lightweight aggregate which is received by rail. This plant averages 800, 8-in. equivalents per machine hour, or a total of 6.800, 8-in. equivalents per day working 8½ hours. This plant runs straight through the lunch hour to get the extra half hour of production. On our blocks per man hour chart we have allocated the following hours: 7 hours unload raw materials; 9 hours mixer man; 9 hours machine operator; 8½ hours parking fresh block, taking cured block to cubing station and returning empty racks to the machine; 16 hours for cubing; 8 hours for loading delivery trucks and taking cubes from cubing station to stock piles; 10 hours for the superintendent; ½ hour to the boiler; and 1½ hours is allocated for cleaning the mixer; 2 hours for cleaning and changing machine; 2 hours for machine maintenance; and 2 hours for lift truck maintenance and repairs. Actually most of this lift truck work would be done on Saturday but would average out at 2 hours per day. The total number of hours worked is 75½. Dividing our 6.800, 8-in. equivalents by our total 75½ man hours we come up with a figure of 90 block per man hour including the block loaded on the delivery trucks. Our base labor rate is $2.39 per hour, overtime premium amounts to 23 cents per hour mainly because we ran at time and a half on Saturday; and fringes including vacation, holidays, health & welfare, Social Security, unemployment insurance, workmens compensation, etc., amounts to 31 cents per hour. Thus the total hourly rate is $2.93 per hour. By dividing our $2.93 rate by 90 block per man hour, we get a labor rate of 3.3 cents per 8-in. equivalent. If we reduce or eliminate a mixer man by automation we save 8 man hours, assuming will still need one of his total 9 hours to check the mixer and set up the first mix. This brings our total man hours down to 67½ and our block per man hour raise to 101 giving us a block labor cost of 2.9 cents or a saving of .4 of a cent per unit. If we work 300 days per year our production would be 2,040,000, 8-in. equivalents times the .04 cent, or a saving of $8,160, per year. If we worked 250 days, our production would be 1,700,000, and the yearly saving would be $6,800. Using a lower labor rate of $1.50 per hour, such as we have in some regions of the United States, our cost per 8-in. equivalent reduces to 1.7 of a cent. The saving by eliminating eight man hours gives us a reduction of .2 cents, instead of the .4 of a cent at the $2.93 rate. Our yearly saving reduces from $8,160 to $4,080 at the 2,040,000 production and from $6,800 at the 1,700,000 production to $3,400. Therefore, the investment in automation in a plant with a high labor rate would be amortised much more quickly than in a plant with a lower labor rate. Against the yearly saving in labor we would have to apply the following costs: Insurance, personal property taxes, depreciation, interest on the investment, and repairs on the equipment, which would have to be estimated. In a similar manner we could determine our saving by eliminating the offbearer and one of the cubers. However, our maximum 8-in. equivalent saving by eliminating all 3 men is 1.1 cents per 8-in. equivalent in the plant with the $2.93 labor rate and .6 cents for the plant with the $1.50 labor rate.

With the reduction of 3 men we have reduced our production hours from 75½ to 50½ hours and have saved 25 man hours. Our block per man hour raised from 90 to 135. From this we can see that a producer who can produce and load on the delivery truck an average of 135 block per man hour is indeed a very efficient operator.

When costing out the savings incurred by the use of loaders, unloaders, and cubers, we must include the costs of the accessory items such as new racks, power roller conveyors, and special clamps. These items can run into considerable capital outlay.

We should keep in mind that in multiple machine plants automation may eliminate an inside lift truck by decreasing the length of travel of these trucks since they do not have to move to the cubing station.

On the positive side of the automation picture we note the following statements that are difficult to calculate in dollars and cents:

1.) Automatic mixing should give more uniform mixes.
2.) Automatic offbearing should result in fewer culls on the machines and enable us to offbear at faster machine speeds.
3.) Semi-automatic cubing should make the work easier for the men and should reduce the number of chipped block.
4.) Automation to and from kilns should reduce culls on the racks.
5.) Automation, by replacing men, should help reduce employment problems during peak production periods. It also should lessen the costly period of breaking new men in and reduce the premium paid for overtime production.

On the questionable side of the automation picture we note the following factors:

1.) There has not been enough field experience to determine the actual amount of supervision required to keep automatic equipment running.
2.) Automation may require the complete replacement of present accessory equipment and may involve enlargement or changes in building design to house this equipment.
3.) There has not been enough field experience on the maintenance of automatic equipment to enable us to properly estimate these costs.
4.) The breakdown of automatic equipment may result in excessive shut down periods for plants, which because of this equipment are unable to operate manually.

The foregoing has been a simple summary of how we would attempt to analyze automation from a cost savings standpoint. I also would suggest the following steps to be used in such an evaluation.

1.) Check your own production efficiency with other plants of the same productive capacity to determine if you are operating as efficiently as you can without automatic equipment.
2.) Analyze the costs of your production operation and determine what savings can be attained by automatic equipment to see if the savings in labor will offset the cost of new equipment.

(*Continued page* 35)

What you should know

Types of

By J. B. MAHER, ENGINEER
Chicago Bridge & Iron Co.

Over the past 8 or so years about 100 concrete block manufacturers in the U.S. and Canada have converted to high pressure steam—autoclave—curing of their products. Long and large, these autoclaves range in size from about 7 to 10 ft. in diameter and from 60 to 120 ft. in length. While most plants have their vessels equipped with a door at only one end, a few have tried for greater mobility by ordering doors at both ends for quicker loading and unloading. These doors, the same diameter as the vessel, are either the bolted or the quick-opening type.

Designed for operating pressures of about 150 psig, the force within an autoclave at full pressure is immense; an 8-ft. autoclave operating with a steam pressure reading on the gauge of 150 psi will have a force in excess of one million lbs. acting on the door. This force is sufficient to raise considerable havoc if the door should become unseated. So materials, fabrication and design of structural parts of the door and flanges should be in accord with the best engineering practice and should fully satisfy the ASME code rules (section VIII) for unfired pressure vessels.

Safety devices, too, should be included in the door design. A force in excess of 7,000 lbs. is still acting on the door when the pressure is down to slightly over 1 psig. So it is important to furnish a means to prevent improper operation of door locking mechanisms relative to safe pressure conditions in the autoclave.

Also, since most autoclaves are operated two or more cycles per day, reasonable manual effort and speed in door operation are required for efficient curing. Moisture, spillage, dust accumulation—these are some of the usual adjuncts in the operation of a concrete block plant; so mechanical parts of doors, if they are to remain in good operating condition, must be kept cleaned and lubricated. Gaskets must be maintained to insure tight seals for adequate curing and steam economy.

Types of Autoclave Doors

Most of the autoclave doors now in service are of the quick-opening variety, but there are a number of claves with bolted doors still being used.

Bolted Doors

On an 8½-ft. diameter bolted door, about 36, 2¼-in. bolts would be required for a vessel operating at 150 psig. Such doors can be bolted or unbolted in about 20 minutes when impact wrenches are used. These wrenches are mounted on a counterbalanced arm pivoted about the center of the door; or they are suspended from a pantagraph-type support. On bolted doors, the nuts are run out only a sufficient distance on the bolts to provide clearance to swing the bolts back, out of the part of door rotation.

Bolted doors employ a compressible gasket detail, with the gasket usually made of asbestos.

Advantages of Bolted Doors

1. The allowance for permanent set of gaskets is not limited by mechanical considerations, as is the case of quick-opening doors. In service, the hard gaskets retain some deformation after each cycle; so at a constant torque, the nuts are just run up farther on the bolts as the gasket decreases in thickness. Gasket life of from six months to one year is experienced in well designed bolted doors.
2. These doors have an inherent safety feature in the unlocking operation. At the end of the cycle the unbolting operation begins. If the vessel is not completely blown down, remaining pressure can escape past the gasket surface as the bolts are loosened. Since the bolts could still be effective in restraining the door, the hazard of sudden, fast swing-back is minimized.

Disadvantages of Bolted Doors

1. The bolting operation generally requires more time and manual effort. With Quick Opening doors the required interval between completion of one curing cycle and start up of the subsequent cycle can be reduced to a minimum.
2. Swing bolts and nuts and impact wrench parts must be replaced occasionally. It is sometimes difficult to maintain equal bolt loads. Impact wrenches set for a certain torque and a proper sequencing of tightening bolts around the circumference will improve operation and service life of bolts.
3. In outdoor installations there is the danger of malfunction of pneumatic impact wrenches resulting from freezing in winter weather.

Quick-Opening Doors

Quick-opening doors may be classified in three categories: doors employing a compressible seal only; doors in which the seal is furnished by interaction of pressure and self-sealing type gaskets; and doors utilizing a combination system in which the gasket is compressed but a self-sealing type gasket is used to supplement the sealing action.

Doors Employing a Compressible Seal Only

There are two general design types now being used in the industry. In one, the outside diameter of the door flange contains several threads. The

about

Autoclave Doors

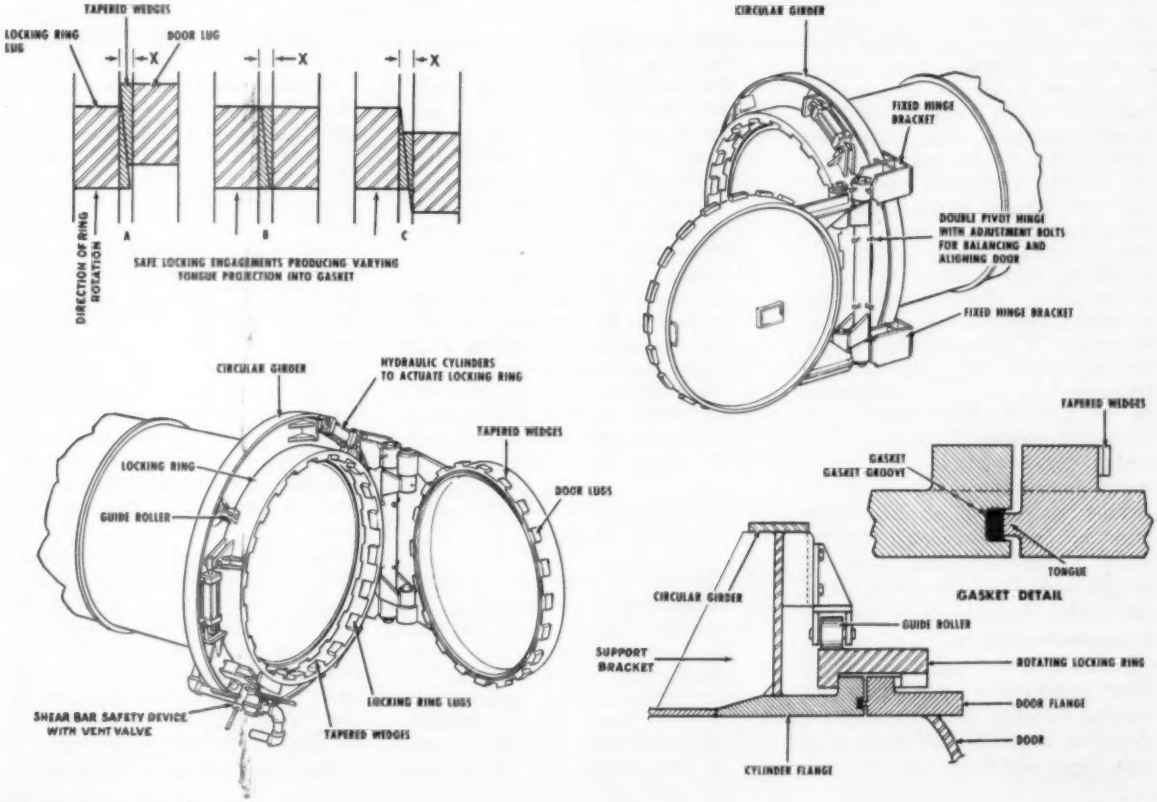
door does not rotate. Instead a rotating collar mounted on the vessel flange has matching threads on its inside circumference, and the door is actually driven into contact with the vessel flange by the interaction of the threads on the collar and door. The collar rotation is provided by a gear type device consisting of an air motor driving a small diameter sprocket which in turn imparts a tangential force to a roller chain bolted to the outside circumference of the collar. Compression of the gasket between door and cylinder flange provide the sealing action.

Breech-Lock Design — Compressible Seal

The most common quick-opening door with a compressible seal is of the breech-lock design (Fig. 1). The cylinder flange and door are held together by a concentric ring provided with a flange and lugs to form a "C-clamp" type locking member. The gasket compressive force is provided by the interaction of inclined plane surfaces of tapered wedges. The wedges are located on lugs on the door flange and on matching lugs on the concentric locking ring. To release the gasket force and unlock the door so that it may be swung open on its hinges, the concentric ring is rotated a few inches on the circumference to a position in which lugs on the door do not coincide with lugs on the locking ring.

The locking ring (Fig. 1) is rotated by hydraulic cylinders placed tangentially around the outside circumference. In some designs, the locking ring does not rotate but rather the door itself rotates about its center. A davit or side hinge supports a center pivot detail from which the door is cantilevered.

Figure 1, breech-lock-type, quick-opening door with compressible seal



As the door rotates, the gasket and steel surfaces must rub on each other. This can cause increased wear of the gasket.

The compressible seal, shown in Fig. 1, consists of a tongue and groove detail. This seal is very similar to that used on a bolted door. The gasket compression force, supplied by the hydraulic cylinders and tapered wedge action, can be of the same magnitude as that provided by the bolts on a bolted door. The most common gaskets used in these doors are of the wire woven asbestos variety, although several other types of hard gaskets such as teflon, hard rubber, and rubber or teflon impregnated asbestos materials are used.

Gasket details other than shown in Fig. 1 are also employed. The gasket can be mounted in the door rather than the vessel flange. Tongue profiles and gasket dimensions vary in the different doors now on the market.

As in the case of bolted doors, most gaskets will retain some permanent set. This effect of progressive thinning of the gasket with service and the extent to which the gasket can be compressed to insure a tight seal are determined by the slope of the tapered wedges, the magnitude of hydraulic force provided, and the required safe wedge engagement. In Fig. 1, details A, B, and C all represent safe structural wedge engagement in this particular design. With a constant hydraulic force, wedge engagement would be as much as indicated in "A" during the first month's operation with a new asbestos gasket. At the end of the second month's operation, wedge engagement may be as much as indicated in "B". After four or five months' service, wedge engagement or locking ring rotation may be as shown in "C". Thus, in locking the door with the same hydraulic force, dimension "X", or the extent of gasket compression, may have increased from about $\frac{1}{8}$" in "A" to as much as $\frac{3}{8}$" in "C" as the gasket sustained an increasing number of closures. If the wedge engagement in "C" represented the maximum extent of safe locking ring rotation, the tongue could no longer be forced into the gasket a sufficient amount to provide a tight seal. Thus, the useful life of this gasket would be at an end and replacement required.

Straight in and out travel of the door is necessary to facilitate the varying extent of gasket compression described above. A fixed single pivot side hinge will swing the door only on a certain arc. A second degree of rotation or provision for travel of the single pivot in a direction parallel to the longitudinal axis of the vessel is required. As shown in Fig. 1, a double pivot side hinge performs this function. A davit type hinge with provisions for uniform door seating or a single pivot hinge in which either the door can move on the hinge shaft or the shaft bearings can move in guides is also employed to produce straight in and out travel of the door.

A shear bar type safety device should be furnished on breech-lock type doors with tapered wedges. One such device is indicated in Fig. 1. The purpose of the shear bar is to restrict any unwinding tendency of the locking ring which could be produced by interaction of tapered wedges and to prevent inadvertent operation of the locking ring when the vessel is pressurized. The shear bar mechanism should be interlocked with a vent valve in the vessel. The vent should be fully opened before the bar can be shifted to a position which will permit rotation of the locking ring to its unlocked condition. The detail should be such that the shear bar must be in the safe position before it is possible to close the vent valve.

Advantages of Breech-Lock Doors

1. The most important advantage in this type quick-opening door is that the long gasket life and tight seal characteristic of a well designed bolted door can be attained. Gasket life in the range of six months to one year has been observed in these doors. The average cost of gaskets used is approximately $40 per gasket.
2. Details are particularly adaptable to automatic operation. Push button control for operating the locking ring is usually provided. With proper maintenance the hydraulic system will furnish a constant gasket seating force of a magnitude compatible with best possible gasket service life.

Disadvantages of Breech-Lock Doors

1. This type of door sells for about 30 per cent more than the quick-opening door employing self-sealing type gaskets. In the latter doors, there is no provision for developing sizable gasket compressive forces. Design requirements and parts required to develop these forces are a major portion of the breech-lock door costs.
2. Because of the more extensive mechanical elements, maintenance other than for gaskets is generally higher on these doors.

Doors with a Self-Sealing Type Gasket

There are a number of doors of this type in service. In general, a concentric locking ring provides the structural attachment between door and vessel. In these doors the gaskets are compressed only slightly or not at all. Thus, locking mechanisms are quite simple.

The particular design, shown in Fig. 2, will serve to illustrate the operating principles. The cylinder and door flange are held together by a concentric locking ring with a "C-clamp" type cross section. The locking ring is fabricated in a complete circle. It is then cut at a single plane on the circumference. At the cut a small hydraulic cylinder is mounted between clevis plates welded to the ring on either side of the cut. The hydraulic cylinder expands and contracts the ring elastically a distance of about 6". In conjunction with this change in ring circumference, external guides are provided so that increased circumference produces a uniform increase in diameter when the ring is fully expanded. In the fully expanded condition the door is free to swing open on its hinges.

An independent safety band is provided on the exterior of the locking ring. It expands and contracts with the locking ring. Both the locking ring and the safety band are equipped with clevis plates at the cut section. Two locking pins are inserted through these clevis plates to secure the door in a locked condition.

A manually operated safety vent valve piped directly to the vessel is provided with an interacting lock which engages the locking pins. Unless the vent valve is fully open, the locking pins cannot be retracted from the clevis plates and hence the door cannot be opened. Also, if the locking pins are not in the fully locked position, it is impossible to close the vent valve.

The vent valve is sized to provide about the same discharge area as provided in the steam inlet valve on the autoclave. Also, if any pressure remains in the vessel when the vent valve is opened prior to unlocking the door, it is immediately apparent by sound and sight that the autoclave is not down to atmospheric pressure.

The gasket scheme is shown in de-

tail A, Fig. 2. In this arrangement the gasket is not compressed by the locking ring. Metal to metal contact between door and cylinder flange is not produced. A pliable (usually rubber) self-sealing type gasket furnishes the seal. Pressure in the vessel produces a force on the gasket lip that causes the gasket to move out of the cylinder flange against the door and holds it in intimate contact with the door. Pressure on the gasket lip also furnishes a radial force that holds the section tight against the outside gasket groove wall. Thus, if some leakage into the gasket groove occurs, the seal is not impaired.

At two points on the cylinder circumference, holes are provided to permit pressurizing the gasket groove. Application of pressure to the gasket in this manner is normally not required in the autoclave application. These holes are usually plugged. However, they will be available for possible future gaskets which may be less pliable or require some additional pressurization.

The self-sealing lip type gasket provides a good tight seal. Until the vessel pressure is up to about 15 psig, with the unpressurized gasket groove, some leakage will occur but this is not very noticeable or objectionable.

Other designs of doors employing the self-sealing type gaskets consist of concentric expandable rings which are mounted in guides on the door or in guides on the inside circumference of the cylinder flange. Two piece locking rings are also used. In this case one piece of the ring is a part of the door and the other a part of the cylinder flange. Unlocking is accomplished by moving the door vertically a sufficient distance to disengage the half rings and provide clearance to swing the door on its hinge. Still another type depends on a breech-lock mechanism in which the locking ring or the door is rotated to engage matching lugs. These doors differ from the breech-lock designs described above in that means for developing large gasket compressive loads are not provided.

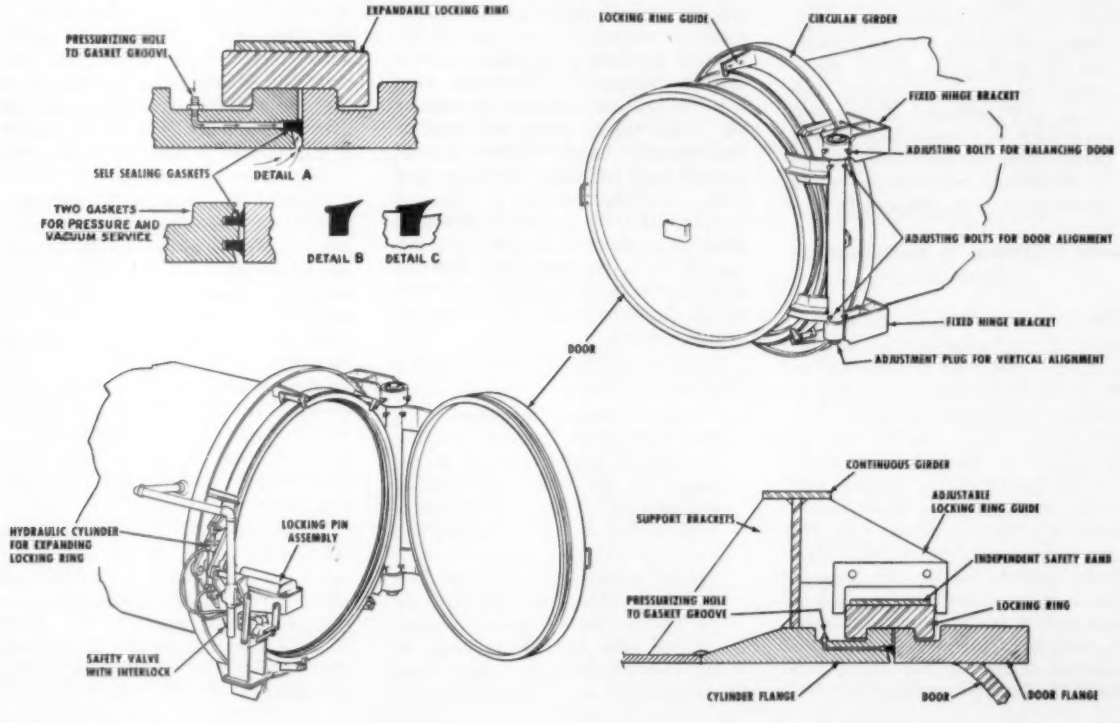
With gasket details of this type it is not necessary to provide hinges which will allow straight in and out travel of the door. A single pivot hinge with fixed bearings or a davit type hinge can be used. Hinges should be adjustable so that the door in the locked and pressurized condition will bear uniformly on the locking device without imposing stress in hinge members. A second degree of adjustment should be provided for balancing the door so that it will swing easily and not have a strong tendency to rotate open or shut from any unattended position in the path of swing.

Various cross sections and dimensions are used in the self-sealing type gaskets. Usually the thin lip portion as shown in detail B, Fig. 2 protrudes beyond the remainder of the face wnich bears against the door. The lip is thus compressed slightly when the door is swung closed. This aids in obtaining a more rapid initial seal.

As shown in detail C, Fig. 2, a "V" type cutout can be provided in that portion of the gasket which remains in the gasket groove. Thus, pressure in the groove will produce a similar self-sealing or lip type action in the groove.

Most of the self-sealing type gaskets presently used are extruded high temperature rubber compounds. Some are molded with either a canvas or asbestos wrapping. The extruded rub-

Figure II, **expandable-ring-type, quick-opening door with self-sealing gasket**



ber types cost from about $10 to $30 apiece. The molded and wrapped types cost from about $40 to $120 each. In normal autoclave service the life of the latter types is usually in excess of two months. The extruded types will last from about two weeks to two months. Frequent lubrication with compatible high temperature greases and patching of damaged areas or splice connections will extend the service life.

Gaskets are easily removed and installed. Gasket changes can usually be made between cycles without interrupting the curing schedule.

Most of the door manufacturers are currently working with gasket manufacturers to develop better compounds which will provide longer service life for the self-sealing type gaskets.

ADVANTAGES OF DOORS — SELF-SEALING TYPE GASKET

1. Because of the relatively simple construction, these doors cost from 10 to 30 per cent less than the breech-lock doors with compressible type seal details.
2. Maintenance of mechanical parts is generally less. There are fewer and less complicated parts.

DISADVANTAGES OF DOORS — SELF-SEALING TYPE GASKET

1. The principal disadvantage is the shorter gasket life experienced with most self-sealing type compounds. Although cheaper gaskets can be used, more gasket maintenance per year is required than on a well designed breech-lock door with a compressible gasket detail. This disadvantage should be minimized with the advent of improved gasket compounds.

Doors Utilizing A Combination System

There are some doors in service, mainly of the breech-lock variety, in which the gasket is compressed to some lesser degree than described in preceding paragraphs on breech-lock doors and in which a self-sealing lip type gasket is also used to supplement the seal detail. In general, gasket life on these doors more nearly approaches that obtained with the doors relying only on a self-sealing lip-type gasket. Gasket life comparable to that attained on breech-lock doors with a compressible seal only, is usually not achieved because of the limitation of the rubber compounds used in the lip-type gaskets.

Design Considerations

Section VIII of the ASME Code for unfired pressured vessels outlines certain requirements regarding allowable design stresses for various materials, general formulas and rules on design methods, weld details, and fabrication and testing procedures. However, these rules can only guide the designer in the broad sense. Recognition of the specific nature of the door application and good engineering practice and judgment are all important.

Deflection and rotation of flanges, evaluation of frictional forces and uniform distribution of pressure loads must be considered for this particular application. Reactions of hydraulic cylinders, guide devices and hinge details must be adequately provided for.

Non-uniform temperature between top and bottom areas of the door and between the locking parts requires special attention. It is recommended that a circular girder, as shown in Fig. 1 and 2, be furnished to minimize distortion of parts and interruption of intimate gasket contact under operating conditions.

Safety Devices

The shear bar type safety devices on various doors can provide rugged and dependable mechanisms. They are not dependent on delicate pressure sensing equipment or on pneumatic or electric power sources. An internal pressure of 1 psig or less is readily discernible when the vent valve is opened. At higher pressures the vent valve operation requires considerable handle effort and if opened only partially, the noise and steam discharge provide an effective warning to the operator. Although additional safety devices are also advisable, it is recommended that the shear bar with interlocked vent valve should be furnished on all quick-opening doors.

Various additional safety devices used are as follows:

1. Pressure sensing instruments of the diaphragm, spiral pressure element, or piston type can be installed on the vessel. The sensing mechanism can be used to actuate a shear bar directly or to actuate electrical switches which in turn control solenoid valves in the door hydraulic lines. The door hydraulic system can be rendered inoperative until internal pressure in the vessel is down to some low set pressure.
2. Limit switches can be placed to be operated by essential moving parts on the door. Such switches can be wired to solenoid valves in instrument air lines. By this means the automatic steam inlet valves can be locked in a closed position so that steam cannot be admitted to the vessel until the door is in a fully secure position.

Certain difficulties may be encountered with these devices. Most sensing elements are limited in range. For zero to 150 psig it is usually necessary to provide dual elements, one for the top portion of range and one for lower pressures. Reliable sensitivity to less than 1 psig is difficult to attain. With autoclaves, corrosion and temperature variation limit the life and accuracy of components. Careful maintenance is required. These are rather delicate instruments often depending on an air or electrical source of power. Failure of either source may render the device inoperative; and even though the system can be arranged to fail safe in event of power or air failure, sticking or leaking may present a problem.

Operation and Maintenance

Quick-opening doors require the attention of competent maintenance people. Bearing surfaces of moving parts should be kept clean and well lubricated. Door alignment and balancing should be maintained. Usually it is necessary only to check alignment periodically or at such times as the door may accidentally collide with a transfer car, a wall, etc. Depending on foundation settlement, it may be necessary to re-balance the door occasionally. The doors, shown in Fig. 1 and 2, have provisions for both of these adjustments.

Gaskets should generally be lubricated with graphite or a high temperature grease to prevent gasket pull out as the door is swung open. Steel surfaces, upon which the gasket bears, should be kept free of grit or particles that may damage the gasket or impair its function. The hydraulic system should also be kept in good working order so that it will deliver the proper force required for a particular seal. Safety devices should be inspected regularly and kept clean and properly lubricated.

Doors are welded to vessels in the fabricator's shop. If the door and vessel are fabricated, assembled and tested by the same manufacturer, responsibility rests with only one party who is particularly well acquainted with design and production of all components.

Overtime Pay ▸▸▸▸

Some employees are exempt; others are not. Are you paying too little or too much?

By ROBLEY D. STEVENS

Why do some employees of plants that produce ready mixed concrete and concrete products of every kind qualify for exemption from overtime pay where others do not? Is there a short cut to exemption? Is there a formula that your company can use to qualify an employee or employees for exemption?

There are no short cuts. But there are formulas which your company can use that are the trademark of an employee who is exempted from overtime?

In substance, the Fair Labor Standards Act states that anyone covered by the law must be paid overtime for work beyond 40 hours weekly. The question is: who in your company is exempted, and who is not? You can answer that question by comparing the job functions of each employee in your company to the tests of salary, duties, and other basic requirements of eligibility for exemption. Anyone in your company whose job meets all the requirements is not officially entitled to overtime, and he is exempted from the wage-hour regulations. Three classifications of personnel exemption are presented below.

1. AN EXECUTIVE EMPLOYEE IS ONE. (a) whose primary duty is the management of the company which employs him or of a recognized department; (b) who regularly directs the work of at least two full time employees; (c) who can hire or fire, or recommend hiring or firing, or whose suggestions in connection with hiring or firing are given particular weight; (d) who regularly exercises discretionary powers; (e) who devotes no more than 20 per cent of his workweek to nonexempt work; and (f) whose salary is at least $80 a week instead of the $55 previously required.

Use the following "short-test" for quick reference: an executive employee who earns at least $125 a week is exempt if he regularly directs the work of at least two fulltime employees, and his primary duty is the management of the company or a department.

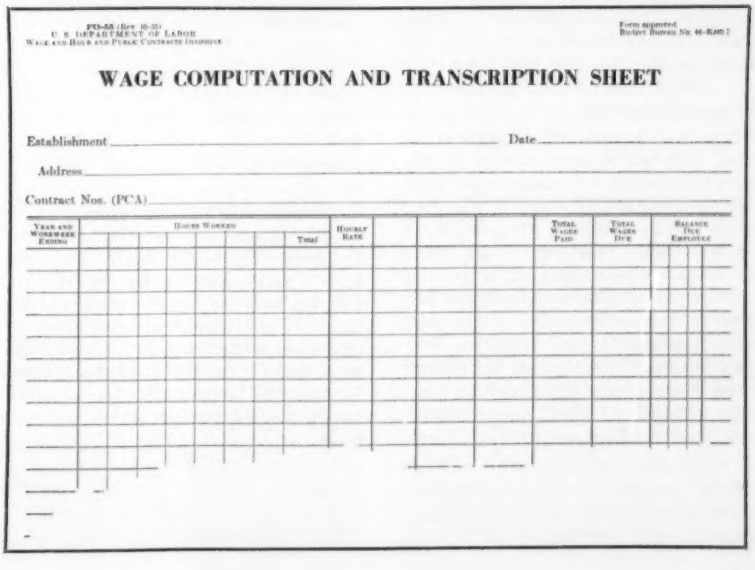
2. AN ADMINISTRATIVE WORKER IS ONE: (a) whose primary duty is responsible office or nonmanual field work of substantial importance to management or operation of the company; (b) who customarily and regularly exercises discretion and independent judgement, as distinguished from using skills and following procedures. He must have the power to make important decisions; (c) he must spend no more than 20 per cent of his workweek on nonexempt work, that is, work not closely related to his administrative duties; and (d) he must earn at least $95 a week instead of $75, as under the old exemption regulations.

Use the following "short-test" for quick reference: an administrative worker who earns at least $125 a week is exempt if his primary duty consists of responsible office or nonmanual field work of substantial importance to management or operation of the company, and his work requires the use of discretion and independent judgement.

3. A PROFESSIONAL EMPLOYEE IS ONE: (a) who consistently exercises discretion and judgement; (b) who does work that is mainly intellectual as distinguished from routine or mechanical duties; (c) who spends no more than 20 per cent of his workweek on activities not closely related to his professional duties; and (d) who earns at least $95 a week instead of $75, under the old weekly minimum.

The "short-test" for this category is as follows: A professional who earns at least $125 a week is exempt if his primary duty is a learned professional service that requires invention, imagination, or talent.

To be considered for the exemption as a professional, the employee's work must require advanced knowledge in a field of science or other branches of learning, usually obtained by a long course of instruction at a college or university. However, the mere possession of a degree does



WAGE COMPUTATION AND TRANSCRIPTION SHEET

Establishment _____ Date _____

Address _____

Contract Nos. (PCA) _____

Year and Workweek Ending	Hours Worked							Total	Hourly Rate				Total Wages Paid	Total Wages Due	Balance Due Employee

not automatically exempt the worker.

Of course, the wage-hour regulations do not require employers to pay these "short-test" salaries or salary minimums to persons doing executive, administrative or professional work. The new salary tests are for overtime-pay-exemption purposes only. If an employee in your company who is covered by the Act does not meet the salary tests, as well as the duties and responsibilities tests, he does not qualify for the exemption. In such a case, the employer may of course continue to pay the employee on the basis of a salary, but the Act's minimum wage and overtime pay requirements must be met, unless some other statutory exemption applies.

Examples

Equally important for you to understand is that the primary purposes of the exclusionary language — placing a limitation on the amount of nonexempt work — is to distinguish between the bone fide executive and the working supervisor who regularly performs production work only remotely related to his supervisory activities.

Here's how to define a working supervisor in your company: One who spends a substantial amount of his time in work which, although not performed by his subordinates, consists of ordinary production work or other routine, recurrent, repetitive tasks which are a regular part of his job.

Such an employee in your company is considered holding a dual job. He may be, for example, a supervisor-production worker; supervisor-clerk; or an employee with some other skilled or unskilled occupation. His nonsupervisory duties then are unrelated to anything he must do to supervise employees under him or manage a department.

You might find it interesting to learn that typical of employees in dual jobs which may involve a substantial amount of nonexempt work are: supervisors or foremen who perform one or more of the production or operating functions; supervisors or foremen who have as a regular part of their duties the adjustment, repair, or maintenance of machinery or equipment; supervisors or foremen who perform clerical work other than keeping the time and production records of their subordinates; the head bookkeeper, or chief clerk.

You can see, therefore, that an office manager in your company who does not supervise two or more employees may not qualify for exemption as an executive employee. But he may possibly qualify for exemption as an administrative worker. An employee charged with the execution of your company's credit policy, management of your traffic department, purchasing, or other responsible office work uses regular exercise of discretion and judgement while doing clearly exempt work.

It is not necessary to emphasize the fact that the wage-hour regulations do not exempt all employees, nor all employees in any particular occupation. Impressive titles or good salaries do not exempt workers. For the exemption to apply, it is the individual's duties which should meet the tests laid down by the wage-hour regulations. Job titles are insufficient as yardsticks for exempting any individual worker from overtime pay after he works beyond 40 hours weekly.

How to Figure Overtime

Employees in your company who receive a higher rate than the statutory minimum of $1 per hour should be paid at overtime rate, on the basis of time and one-half their regular rate, for hours put in more than the 40 hour work week.

No particular accounting method is required. Your company may pay its personnel on an hourly, day or job, or salary basis.

You should know and understand that the term "regular rate" is defined as to include all remuneration for employment paid to — or on behalf of — the employee, except payments specifically mentioned later as statutory exclusions.

Your employees may work any number of excess hours so long as they are paid overtime, unless, of course, they quailfy for the previously-mentioned exemption status.

A workweek is considered to be a regularly recurring period of 168 hours — seven consecutive 24-hour periods — and need not conform to the calendar week but may begin on any day.

■ Hourly Rate: If an employee in your company is employed solely on the basis of a single hourly rate, the hourly rate is his regular rate of pay. For his overtime work he should be paid, in addition to his straight-time earnings, a sum which is simply determined by multiplying one-half the hourly rate by the actual number of hours worked beyond 40 weekly.

■ Pieceworker: If an employee in your company is employed on a piece rate basis, his regular hourly rate of pay is computed simply by adding together his total weekly earnings from such piece rates and all other sources, except statutory exclusions. This sum should then be divided by the number of hours worked in the workweek for which such compensation was paid, to yield the pieceworker's regular rate for that week. So, for his overtime work the pieceworker should then be entitled to be paid, in addition to his total weekly earnings, a sum equivalent to one-half this rate of pay multiplied by the number of hours worked in excess of 40 in the week. In short, only additional halftime should be required in such cases since the employee has already received straight-time compensation at piece rates for all hours worked.

■ Day and Job Rate: If an employee in your company is paid a flat sum for a day's work for doing a particular job, without regard to the number of hours worked in the day or at the job, and if he receives no other form of compensation for services, his regular rate should be determined by totaling all the sums received at such day or job rates in the workweek and then by dividing by the total hours actually worked. He should then be entitled to extra halftime pay at this rate for all hours worked beyond 40 weekly.

■ Employees Working at Two Rates: If an employee in your company in a single workweek works at two or more different types of work for which different basic hourly rates of not less than $1 an hour have been established, his regular rate for that week is the weighted average of such rates. His total earnings, except statutory exclusions, from all such rates should then be divided by the total number of hours worked at all jobs.

■ Salary Employee-General: If an employee in your company is employed solely on a weekly salary basis, his regular hourly rate of pay, on which time and a half should be paid, is simply computed by dividing the salary by the number of hours which his salary is intended to cover. However, a monthly salary is subject to translation to its equivalent weekly wage simply by multiplying by 12 (number of months) and then dividing by 52 (number of weeks). A semi-monthly salary is also to be translated to its equivalent weekly pay by multiplying by 24 and then dividing by 52. Once the weekly wage rate is determined, the hourly rate should be calculated as indicated.

■ Salaried Employee-Irregular Hours: If an employee in your company earns, say $66 per week with the

understanding that his salary is to cover all hours worked — if his hours of work fluctuate from week to week — obviously, his regular rate of pay will vary from week to week and will be the average hourly rate each week.

Excluded Pay

The following payments are considered to be excluded from the "regular rate;" sums paid as gift at Christmas time or on other special occasions; payments for unworked time due to vacation, holiday, illness, or failure of employer to provide sufficient work for employee; payments determined at the discretion of employer and not made by any prior contract or promise causing employee to expect such payment; contributions to pension, retirement or old-age, life, accident, or health insurance plans; premiums for work above daily or weekly standards such as 8 hours in a day or 40 in a workweek; premiums for work on Saturdays, Sundays, holidays, regular days of rest, or sixth or seventh days of workweek; premiums for work outside the regular workday and workweek and not as a result of an employment contract or collective bargaining agreement.

Recordkeeping

Your company must keep time and payroll records. An investigator's first contact with an employer is through an audit of the records. Inaccurate or incomplete records could prove costly. While no particular form or order is required, remember that the following information should be kept for inspectional purposes: employee's full name, home address, social security number, occupation in which employed, hour and day workweek begins, total hours worked daily or weekly, basis on which his wages are paid, legal deductions from wages paid, date of payment, and pay period covered by payment.

Many employees are often on a fixed working schedule. Your company should keep a record showing the exact schedule of daily and weekly hours that the individual employee is expected to follow. Keep all records for three years, and hold the data on which wage-hour computations are based for two years. These items include time cards, wage-rate tables, work schedules, including order, billing and shipping information. Records must be open for official inspection. An investigator may request your company to make extensions, recomputations or transcriptions as illustrated on Form FO-55.

Overtime cost is expensive enough without making it more so by misclassification of your employees entitled to the exemption status.

Tips or complaints arise from many sources — competitors, labor unions, employees, and ex-employees. Aside from this, however, reinspection may occur anytime.

Each employer in the ready mixed concrete or concrete products industry must of necessity work out his own system of compensation, consistent with the wage-hour regulations.

Evaluating Lower Costs by Automation

(*article begins page* 26)

3.) Temper the savings anticipated in the previous statements with a safety factor based on your own practical evaluation of what you can learn from the experience of those who are using the equipment in the field, and accordingly make allowance for additional supervision and maintenance.

Summary

	Standard Products	Eliminate Mixer Man	Eliminate Mixer Man & Offbearer	Eliminate Mixer Man Offbearer & 1 Cuber
Block per day	6800	6800	6800	6800
Material Unloading	7	7	7	7
Mixing	9	1	1	1
Machine operator	9	9	—	—
Park fresh block	8½	8½	8½	8½
Park cured block	—	—	—	—
Park empty rack	—	—	—	—
Cubing	16	16	16	8
Cubes to storage	4	4	4	4
Clean mixer	1½	1½	1½	1½
Change mold boxes	2	2	2	2
Machine maintenance	2	2	2	2
Boiler man	½	½	½	½
Lift truck repairs	2	2	2	2
Superintendent	10	10	10	10
Load delivery truck	4	4	4	4
TOTAL NO. OF HOURS	75½	67½	58½	50½
Block per man hour	90	101	116	135
Cost per 8-in. equivalent at $2.93	.033	.029	.025	.022
Cost per 8-in. equivalent at $1.50	.017	.015	.013	.011

Saving per year at $2.93 labor rate—eliminate one man, 2,040,000 x $.004 equals $8,160.00
Saving per year at $2.93 labor rate—eliminate one man, 1,700,000 x $.004 equals $6,800.00
Saving at $2.93 labor rate by eliminating three men, $.011 per 8-in. equivalent
Saving per year at $1.50 labor rate—eliminate one man, 2,040,000 x $.002 equals $4,080.00
Saving per year at $1.50 labor rate—eliminate one man, 1,700,000 x $.002 equals $3,400.00
Saving at $1.50 labor rate by eliminating three men, $.006 per 8-in. equivalent

NCMA Convention

(*article begins page* 20)

unit cost data on the various phases of block plant operation—purchasing, manufacturing, warehousing, financing, marketing, service, etc.—is a primary objective of the newly-formed NCMA management information committee. Elmer R. Baumgartner, Layrite Concrete Products, offered a plan whereby the initial investigation program would be placed in the hands of an outside accounting firm. Costs of this program would be $7,500, with a participation cost of $250 for each individual plant surveyed and a minimum of 40 plants participating.

PRODUCTION: Most of the significant points brought out during this final panel discussion of the NCMA convention were covered earlier under automation. (Also see Paul Bronson's speech, published in this issue of CONCRETE).

Next year's NCMA convention is scheduled for Feb. 14-18, 1960, at the Statler Hotel, Los Angeles, Calif. A 15-day post-convention tour of Hawaii is also being planned.

A Look at What's New in

EQUIPMENT and MATERIALS

Praschak Offers New Portable Batch Loader

Praschak Machine Company, Highway 13 South, Marshfield, Wisconsin, has announced the addition of a new labor-saving machine to their line of concrete products equipment; it is their "Go-Devil" mixer batch loader. The unit is designed to offer efficient, accurate measuring and charging of materials into the concrete mixer, in plants that do not have overhead bins.

The batch loader is a mobile, self-propelled, self-contained unit, consisting of a large skip bucket that is capable of holding a full mixer batch of material, filled by means of a rugged aggregate elevator. The entire machine is driven by a gasoline engine, which is equipped with an electric starter-generator. All operating controls are conveniently grouped at the operator's platform, from which the operator has full visibility while moving the loader in either direction. The machine has a full selection of four driving speeds in either direction, and is extremely maneuverable.

The mixer operator drives the machine and accomplishes the full charging-mixer operation. As soon as a batch has been discharged from the mixer, the next batch is started immediately by dumping the full measured amount of material from the loader into the mixer. The operator then adds the proper amount of cement to the batch in the mixer—while this is dry-mixing, he drives the "Go-Devil" batch loader to the aggregate piles and loads the correct full amount for the next batch, and returns the loader to the mixer location. This is accomplished in approximately one minute.

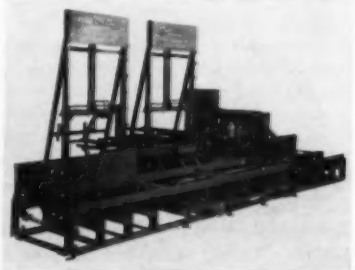
Because of the skip type drive of the large skip bucket, the overall height of the machine is kept low; yet the bucket raises high enough for normal discharge into standard floor-mounted mixers.

Enter 534 on Inquiry Card

Rack-O-Matic Is New Lithibar Equipment

Lithibar Company, 345 W. 14th St., Holland, Mich., introduced a new piece of block plant equipment at the NCMA Concrete Industries Exposition in Cleveland that created widespread interest among the thousands of block producers in attendance.

The new equipment is the Rack-O-Matic, an automatic unit which handles blocks with a minimum of manpower in an efficient and economical manner. This unit eliminates the offbearer and offbearer operator and does the following jobs automatically: loads green block from the machine on to the block rack; trans-



fers loaded rack to pick-up point for the truck operator; unloads cured block; returns empty pallets to the block machine.

The Rack-O-Matic is operated by a hydraulic power unit which contains a 30 gpm. hydraulic pump and 15 hp. motor. The control valves are all manifold mounted and enclosed in a dust-tight cabinet. The J. I. C. tank holds 50 gallons of oil which can be heated or cooled by means of the heat exchanger or heated by an electric immersion heater.

Principal advantages claimed for the Rack-O-Matic are: reduced labor since no offbearer or offbearer operator is required; increased production because the Rack-O-Matic is not limited by the speed of the offbearer operator; increased quality because of fewer culls due to careless manual operation; reduced space since the equipment actually requires less space than an offbearer.

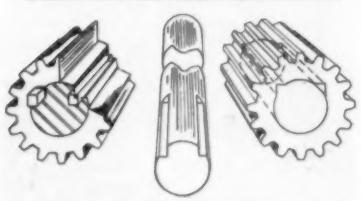
The Rack-O-Matic is safety-synchronized with the block machine. The equipment should give long, trouble-free operation because of the modern design which eliminates chain, gears and sprockets. The Rack-O-Matic can be used with all block machines which use a front or side pallet feeder. Dimensions are: length, 19 ft., 11 in.; width, 9 ft., 9 in.; height, 8 ft., 9 in.

Enter 535 on Inquiry Card

Bergen Offers Keyed Pinion Gears, Shafts

For many years maintenance mechanics and block machine operators have fussed and fumed at the frustrating job of keeping the 16-tooth pinion gear tight on its shaft. With the introduction of its Contra-Torque keyed pinions and shafts, Bergen has successfully eliminated the necessity of forever tightening keys and keyways.

"CONTRA-TORQUE" Keyed Pinion Gears and Shafts



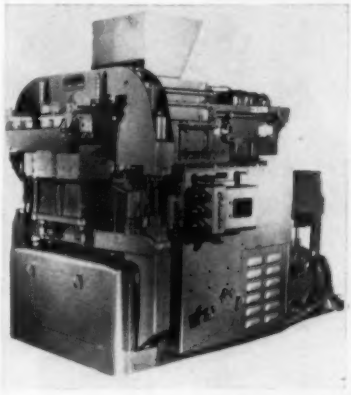
Contra-Torque keys and keyways are tapered, insure a true, accurate wedge between gear and shaft, effectively eliminate vibration wear. Thoroughly field-tested by Bergen for more than a year before their introduction, Contra-Torque keys and keyways represent a vast improvement over conventional keys, whether single or multiple type.

For more information about these inexpensive, recently developed Contra-Torque shafts and pinion gears, contact the Bergen Machine & Tool Co., Inc., 189 Franklin Avenue, Nutley 10, New Jersey.

Enter 536 on Inquiry Card

Super Model 10 Is New Columbia Block Machine

The new Columbia Super Model 10 block machine first shown at the NCMA Concrete Industries Exposition in Cleveland by Columbia Machine, Vancouver, Washington, incorporates many design changes that give the machine greater production capacity and make it much easier and faster to service and maintain in the field.



Among the many features of the new machine is a removable center section on the bottom beam that can be raised and lowered with spacer block without readjusting the pallet holder table, allowing a change-over to half heights in 20 minutes or less. New and improved ideas in directional vibration, that in field tests have shown capacity increases of up 20 per cent, have been incorporated in the Super Model 10. Guide bearings are specially constructed of newly developed materials and are designed for trouble-free operation. The new machine is built to use up to 22 inch wide pallets.

Ease of installation was another objective in the design of the Super Model 10. Because all hydraulic units are built in, outside tubing has been completely eliminated. Only electrical wiring is necessary for field installation.

According to Fred Neth, president of Columbia, the Super Model 10 comes as a result of years of engineering and a thorough screening of suggestions and ideas from hundreds of block plant operators all over the world.

Enter 537 on Inquiry Card

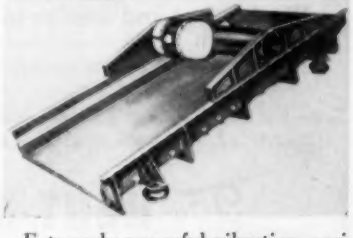
New Vibrating Screen Offered By Syntron

Syntron Company announces development of a new "unbalanced-motor" electromechanical vibrating screen for the efficient dry or wet screening of a wide range of bulk materials' types and sizes.

The screen will effectively handle most materials ranging in size from 100 mesh to three-inch lumps. This Syntron-Sinex screen is available in two models. The SS-146 provides a four by six-foot screen surface. The SS-1510 has a screening area of five by 10 feet.

Both models can be furnished as single or double deck screens with either 900 or 1800 rpm drives. They can be arranged for base or suspension mounting, either way utilizing newly developed pneumatic vibration-absorbing mounting members, which prevent transmission of vibration to the building structure or to adjoining equipment.

The drive units are powerful, self-contained, unbalanced electric motors which eliminate the need for belts, chains, and separate motor mountings. They are totally enclosed — pressure tight and water-proof — with sealed in forced air-oil mist lubrication. Motors contain a thermal overload starting switch. Operate from 220 or 440 volt, three-phase, 60 cycle alternating current.



Extremely powerful vibration, easily replaceable screening surfaces in a variety of types and mesh sizes, rugged, light-weight construction, simple installation and economically long service life are features that should appeal to users.

Complete information immediately available upon request—without cost or obligation—from Syntron Company, 324 Lexington Avenue, Homer City, Pennsylvania.

Enter 538 on Inquiry Card

New Advertising Service Offered Block Producers

A new and economical advertising mat service designed to promote sales for the concrete block industry has been prepared by Modern Masonry Mats, P. O. Box 2343, Portland 14, Oregon. This service will provide a complete advertising program that can be used either in local publications or in printed literature for mailing pieces.

The service can be purchased in its entirety or in part as needed by the subscriber. Proofs of illustrations, headings and complete advertisements are furnished free, from which the plant operator may select the complete advertisement desired or illustrations and headings from which he may prepare his own copy. Sizes of illustrations are suitable for advertisements from one column, newspaper width, to four columns.

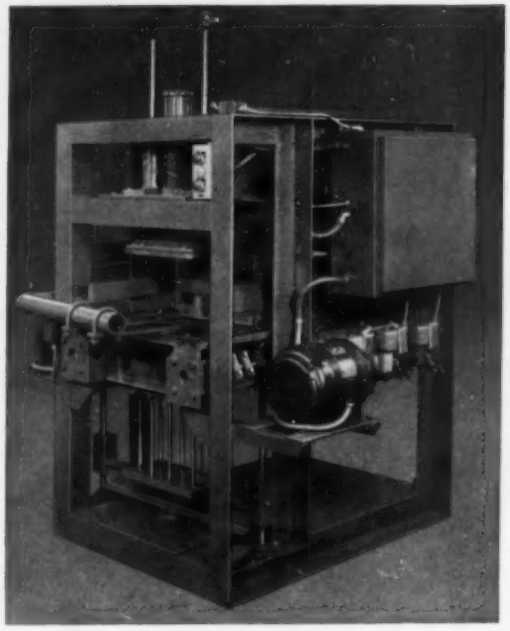
The advertisements are designed to sell concrete block for all purposes, including garden walls, outdoor barbecues, garages, car ports, farm utility buildings, etc. A special series has been prepared for advertising modern homes of concrete masonry, that include floor plans and elevation drawings. Detailed plans and specifications of these homes are available to block plants and their customers.

Illustrations of homes, commercial buildings and miscellaneous concrete block projects are completely new and modern, utilizing the latest developments in regular and specialty blocks. The advertisements are developed to create a demand for concrete masonry units and are readily adaptable to local use. Complete book of illustrations, layout suggestions and prices will be sent free upon request.

Enter 539 on Inquiry Card

KENT Blockmaster

an advanced model of the **Super Blockmaker** with **DUAL MOTOR VIBRATION** to produce densest possible blocks of highest quality



Embodies all the proven general features of the Super Blockmaker and uses its molds without change.

A simple, efficient, compact, relatively inexpensive machine. A profit maker for small and medium sized block plants. Literature available.

The KENT MACHINE CO.
SUBSIDIARY OF THE LAMSON & SESSIONS CO.
CUYAHOGA FALLS, OHIO
CONCRETE PRODUCTS MACHINERY SINCE 1925
Canadian Distributor: Wettlaufer Equipment, Ltd., 49 Merton St., Toronto 12, Ontario

Dry Bulk Transport Has Twin-Screw Unloading

A new twin-screw unloading steel trailer designed to haul all types of heavier dry bulk material such as cement and fly ash, has been announced by Butler Manufacturing Company, 7400 E. 13th St., Kansas City, Mo.

The pound-saving design of the new Butler transport permits bigger, more profitable dry bulk payloads, with heavy duty construction for longer trailer life. Equally important is the "clean bore" interior of the trailer's 60 degree slope side walls that assure positive flow to the twin-screws and permit fast, continuous unloading without material hang-up or bridging. One or more extra loads can be delivered per day, due to time saved at the unloading destination.

Twin dual pitch 9" diameter screws are each 28' 6" long and have

6″ pitch the first 20′ for power unloading of the trailer even with a full, tightly packed load and 9″ pitch on the rear 8′ 6″ length provides speed and assures maximum rate of delivery. This dual pitch control of the twin-screws gives proper combination of power and speed to unload all materials at maximum rate. The twin-screws can be operated separately or together for selective unloading speed, with remote controls located at the rear of the trailer that are easily operated by the driver. The new Butler twin-screw dry bulk steel trailer is available in 640, 740 and 840 cubic foot capacities. Units that meet individual customer requirements and hauling capacities will also be built.

Enter 540 on Inquiry Card

New Charting Tool for Use with Narrow Tapes

Labelon Tape Company, Inc., 450 Atlantic Ave., Rochester, N. Y., manufacturer of the popular "Write-on-it" Tape and the newly introduced Graph-A-Plan charting systems, announces the introduction of its GP Pen, a new charting tool for use with the company's extremely narrow tapes.

Made of durable, colored plastic, the new GP Pen makes possible the fast, accurate placing of lines on charts, layouts, and graphs, without the annoyance of smudged ink lines or any irregularities. The GP Pen is easy to use, being pencil-size and light in weight. Uniform lines of solid color or pattern tapes can be applied with greater speed than with a pen or pencil.

One of the outstanding features of the GP Pen is the special and exclusive cutting bar which enables the chartist to automatically cut off the tape at a desired point on the chart or graph.

The GP Pen may be used with any of Labelon's narrow line tapes, which range in size from ⅛ inch down to 1/64 inch wide. These are presently available in ten distinct patterns and in a choice of fourteen solid colors.

Enter 541 on Inquiry Card

New Portable Transit Mix Plants Announced

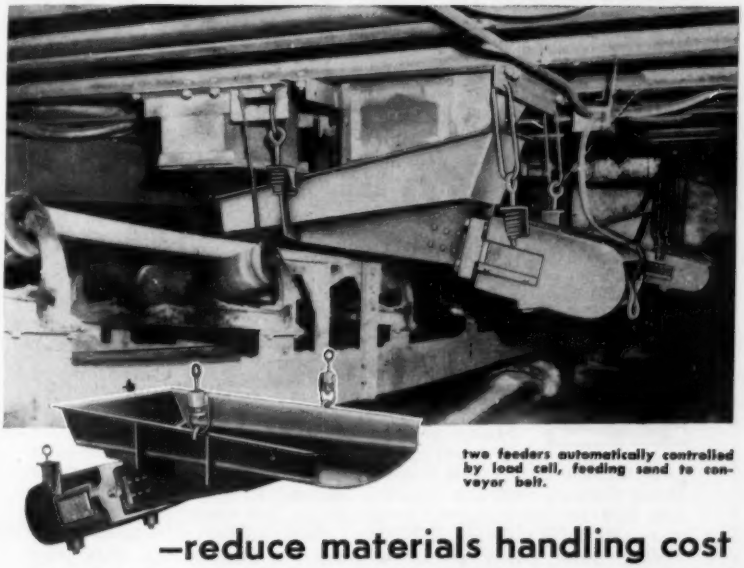
A new series of Gregco portable transit-mix plants, designed for easy erection, high capacity and convenient operation has been introduced. The aggregate bin on these plants is divided into compartments and can store up to 140 cubic yards. Cement is held in an overhead compartment. Top openings of the bin compartments are assembled in an in-line arrangement for easy charging by clamshell crane.

The portable plant is factory assembled and requires only a minimum crew and standard crane to erect or dismantle. Actually this complete plant has been assembled, in the field, in one ten hour day.

The plant is comprised of the bin section, an intermediate operating section and the superstructure. The

SYNTRON Vibra-Flow

VIBRATORY FEEDERS



two feeders automatically controlled by load cell, feeding sand to conveyor belt.

–reduce materials handling cost

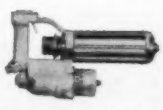
SYNTRON Vibratory Feeders are designed for efficient, high capacity handling of most bulk materials—sand, cement, gravel, limestone, etc.—dry or damp, hot or cold from fine powders to large chunks. They provide a smooth uniform flow of materials at instantly adjustable rates to meet operational demands. This control may be either manual or automatic. Their electromagnetic principle,- eliminates motors, bearings, gears and belts,—assures dependable, low-maintenance operation.

There is a SYNTRON Feeder for every material handling problem. Let SYNTRON help cut your materials handling costs.

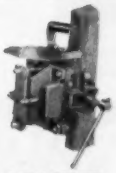
Write for complete catalog data—FREE

SYNTRON COMPANY
324 Lexington Ave. Homer City, Penna.

Other SYNTRON Equipment of proven dependable Quality



ELECTRIC HAMMERS AND HAMMER DRILLS



CONCRETE VIBRATORS

VIBRATORY PACKERS

bin section comes complete in itself, with attachments for connecting to the operating section. The operating section includes scales and batchers that fasten on to the bin section with only five fittings.

The elevator can come completely assembled and ready to set in place, as does the cement silo. An auxiliary control panel, to enable truck drivers to receive the batches without leaving their trucks, can also be furnished.

The plants are available in capacities of 45, 75, 100, 150 and 200 tons. Aggregate conveying or elevating equipment can be furnished in a range of capacities. For further information write L. O. Gregory Manufacturing Company, Inc., P. O. Box 408, Memphis 1, Tennessee.

Enter 542 on Inquiry Card

New Quiet Car Shaker By Stephens-Adamson

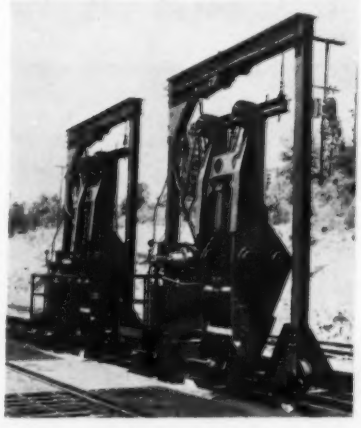
A hydraulically powered car shaker designed to provide maximum efficiency in unloading of hopper-bottom railroad cars with a minimum of noise is being manufactured by Stephens-Adamson Mfg. Co. Far less noisy and considerably less costly than overhead car shakeouts the Carquake utilizes hydraulically powered vibration with speed controlled to match required capacity. One man quickly, easily and safely unloads hopper-bottom cars, controlling the entire operation from a hydraulic control panel. Personnel are free from danger of cave-ins or accidental fall through car bottom openings.

The Carquake is available in two models: the type "B" stationary mounted and the type "C" rail mounted. Both units are furnished complete, in that they require no additional structure, hoists or controls. The customer need furnish only footings and electrical wiring to the push-button line starter.

The type "B" stationary mounted Carquake is designed for applications where only slight movement parallel to hopper cars and track is required. The unit is mounted to the customer's concrete hopper foundation or steel structure with anchor bolts.

The type "C" rail mounted Carquake differs from type "B" in that the entire unit is mounted on rails and propelled by means of a hydraulic motor with speeds up to 50 Fpm. It can travel any desired distance and unload at any point along its travel. Concrete piers or steel structure for anchoring the rails are all the customer need furnish.

A distinct advantage of the Carquake is the clamping feature by which the shaker becomes an integral part of each car structure to which it is attached. Objectional noise from



bouncing and hammering prevalent in overhead car shakeouts is eliminated. Although the capacity of any car shakeout depends on several variables; physical characteristics of materials, weather conditions, type of

COST CONSCIOUS?

Why not join the swing to . . . FRONT ENGINE DRIVE ROCKETS?

FOR MORE ECONOMICAL OPERATION . . .

Many ready-mix operators have learned that Front Engine Drive Rockets cost less initially and less to operate give them more profit.

Why your costs go down with Front Engine Drive Rockets: It's a basic engineering principle that as the work load on a single engine increases, so does efficiency. Friction and wear are minimized in the smooth even flow of power from both ends of engine. Result — less maintenance, less downtime.

Most operators are finding they use less gasoline too, than they would with two engines. For example, one operator reported a minimum savings of $350 per year.

AND EASIER CONTROL...

Finger Tip Control in Cab, so your driver can quickly and easily disengage the mixer drive and transfer full power to truck. Positive discharge and accurate chute placement controls are conveniently grouped at rear of mixer.

Write today for more information about this great, extra-feature-loaded mixer value that costs less initially, less to operate, less to maintain.

CONCRETE TRANSPORT MIXER CO.
4983 FYLER AVE., ST. LOUIS 9, MO.
FL 2-7800
CTM

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Dodson's Digest

First sign of spring

Driving home from work a few weeks back a detour took me into a part of town I hadn't visited in some time. It had sprung into a beehive of small businesses, and a sign, *Concrete Specialties Company*, caught my eye – so I stopped (naturally) and went in.

"Anybody around?" I yelled. The vacant, high-vaulted shop answered with the crash of concrete thudding into a truck from somewhere out back. "Name's Dodson," I explained quickly to a sweating young giant who appeared suddenly as I rounded a corner. "I'm with . . . "

"You're with Wyandotte." His face broke into a wide friendly smile as he mopped it with a piece of waste. "You push Calcium Chloride. I read your stuff in . . . "

"Looks like you don't use it," I interrupted sternly, motioning to the huge pile of broken concrete he'd been loading.

"But, Mr. Dodson, this . . . "

"No buts!" I exclaimed. "With Calcium Chloride you get less breakage, better product appearance. Higher early strength cuts curing time in half! You slash costs because you have more productive capacity . . . "

"But, Mr. Dodson, we . . . "

"And it protects concrete in cold weather!" I kept on.

"WAITAMINUTE!" His shout filled the small building. "This pile is just an old slab we broke up. Everything you say about Calcium Chloride is gospel. But I don't need it now."

Shaking my head I went back to the car. As I started it up, I noticed Young Giant hanging a sign in the window. It read, *"Watch for Grand Opening next spring."*

– L. D. Dodson

P.S. — Our booklet, "How To Make Better Concrete Products and Ready Mix," gives the lowdown on higher profits. Send for your free copy. *Wyandotte Chemicals Corporation, Wyandotte, Mich. Offices in principal cities.*

Wyandotte CHEMICALS

MICHIGAN ALKALI DIVISION

HEADQUARTERS FOR CALCIUM CHLORIDE

car, etc., the Carquake has demonstrated greater effectiveness in dislodging difficult materials because they provide for controlled vibration intensity.

For full information on both models write for Bulletin 658, Engineering Division, Stephens-Adamson Mfg. Co., Ridgeway Avenue, Aurora, Illinois.

Enter 543 on Inquiry Card

New Ready-Mix Truck Models Introduced

Two new ready-mix concrete trucks, one with an extra heavy front axle have been announced by the Four Wheel Drive Auto Co., Clintonville, Wis., heavy-duty vehicle manufacturer. The new models are designed to meet special area weight restrictions on ready-mix concrete trucks.

The new C6-547 is a 54,000-pound gross vehicle rated truck with an 18,000-pound front axle and rear tandem axles rated at 36,000 pounds. The truck is designed to carry maximum legal loads in areas which permit upwards of 49,000 pounds gross vehicle weight on a three-axle truck but where weight on the two rear axles combined is limited to 32,000 pounds. To provide extra flotation of the heavy front axle load in off-highway use, the two front wheels of the C6-547 are equipped with 14.00x20-in. tires. The rear tires are 10.00x20-in. Available with either conventional or tilt-cab, the C6-547 is equipped with an RD-501 six-cylinder, valve-in-hand, 212 horsepower gas engine.

The other new truck, Model C6-405, is designed to carry maximum legal loads in areas where the legal gross vehicle weight is limited to 42,000-44,000 pounds and where 32,000-pound loads on the tandem rear axles are permitted. Equipped with a 5 cubic yard mixer, the C6-405 will scale legally with 5 to 5½ cubic yard loads in such areas. Both new models are six-wheel drive.

Enter 544 on Inquiry Card

Dow Movie Shows How To Use Calcium Chloride

"Quality Concrete with Calcium Chloride," a 16-mm color and sound motion picture, has been released by The Dow Chemical Company's Highway and Construction Materials Department, Midland, Mich.

The 12-minute film, first one of its type to be made available to the construction industry, pictures the benefits of using calcium chloride with portland cement concrete.

Suitable for showing to ready-mixed concrete associations, contractors, colleges and universities, civil and structural engineers, architects and other technical groups, the film is available free from Dow sales offices or from the Highway and Construction Materials Department.

Use of calcium chloride in concrete provides faster set and high early strength as well as improved workability, density and ultimate strength. The film shows the importance of these advantages to all types of concreting applications in both winter and summer. It also shows proper handling procedures for using calcium chloride in concrete.

Enter 545 on Inquiry Card

New Portable Batch Plant By Erie Strayer

Erie Strayer's new TPA-TPC Portable is its answer to the demand for fast, low-cost truck mixer batching plants for highway, bridge and other construction distant from central plants and is said to practically eliminate distance hauling. It's a job-site

plant, operates either on gas or electricity and can be moved easily to keep up with progress on the job.

Here are some of the features

Forrer's XL-100

Powdered

Concrete Plasticizer

does a better job . . . yet costs less!

Costs only ¼c per bag of cement

Cut your plasticizer costs to the bone with XL-100 dry powder. It weighs less — goes farther and does a better job. New process brings you a plasticizer that acts faster, takes 1/3 the amount (by weight) and does a superior job. Concrete blocks are shades whiter, denser and outside surfaces have smoother texture. Increase contractor, builder satisfaction — deliver a better block for less than 1/4c per bag of cement. Investigate Forrer's XL-100 today!

COMPARE!
SEE THE AMAZING DIFFERENCE!

Forrer's XL-100 is a dry hydrated powder with wetting and dispersing agents. It's easy to use and economical too — costs but ¼¢ per bag.

Send for FREE Trial Sample Today!

FORRER'S, 2225 N. Humboldt Avenue, Milwaukee 12, Wis.

FORRER'S
STAR PRODUCTS FOR MASONRY

- ★ X-L 100. Powdered concrete plasticizer
- ★ Kleen-Mix. Eliminates "build-up" on hoppers and mixers
- ★ For-Air. Concentrated air entraining agent
- ★ Economy Release Oil. A parting solution that cuts clean-up time by 50%

National Sales Representatives for:

RAMSEY PRODUCTS

- ★ A.B.C. Automatic Batching Controls. Completely automatic weighing, mixing and handling
- ★ Sand Moisture Probe. Measures sand moisture content
- ★ Moisture Meter. Regulates water in concrete mix automatically
- ★ Calcium Chloride Dispenser. Automatic batching control.

Forrer's
PRODUCTS FOR MASONRY
SINCE 1926

BESSER *Brickveyor*

• The Besser Brickveyor is the modern way to position brick for the cubing operation. A brick cuber picks up 32 brick at a time and deposits them on Brickveyor in an upright position. Two variable speed belts automatically tip brick from vertical to horizontal position. Adjustable inclined gravity roller conveyor accumulates rows of brick for brick clamp handling at opposite end of Brickveyor. The brick clamp, interchangeable with block cubing clamp, assures fast, safe handling from Brickveyor to cube.

Brickmaking is profitable when you can make brick on a Vibrapac and cube them with the help of a Brickveyor. Handles up to 60,000 brick per day. Speeds up the job.

• Send for Bulletin No. 128 describing 4 ingenious ways of handling block or brick by power.

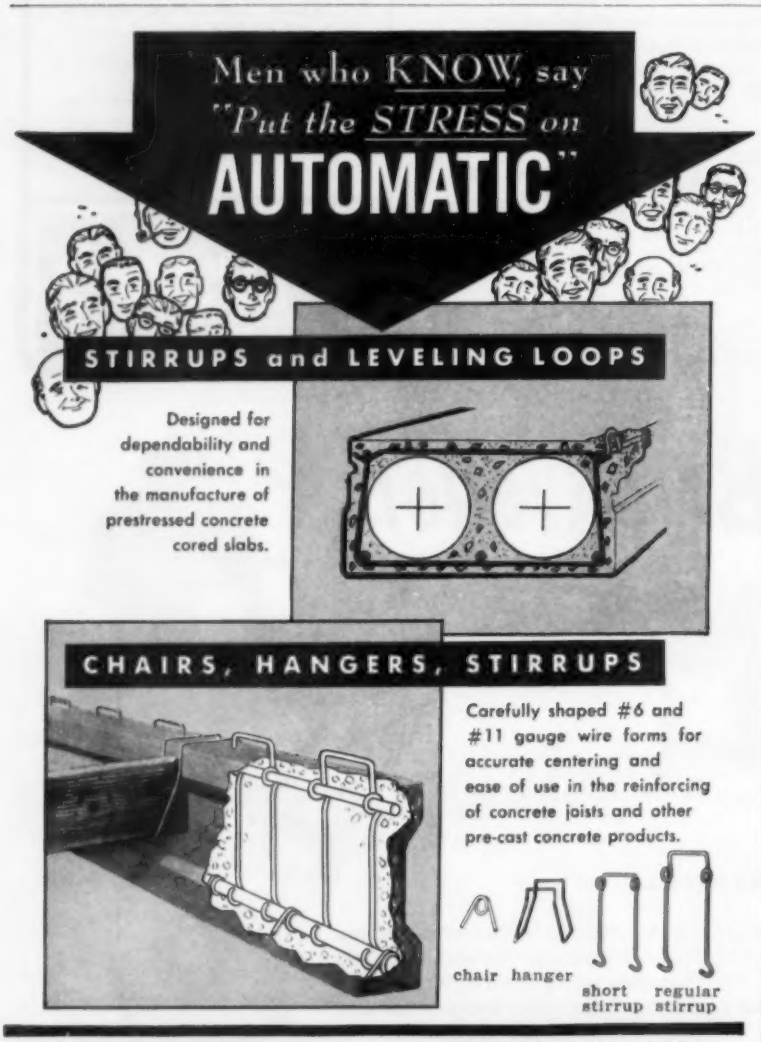
BESSER COMPANY • Complete Equipment for Concrete Block Plants • Alpena, Michigan, U. S. A.

claimed for the TPA-TPC job site plant: Set-up time 3 hours. Both units are mounted on rubber tires and are moved with two truck tractors. All conveying and batching equipment is permanently attached. Nothing is removed either for transit or operation. Wheels do not have to be dismounted when unit is set up. Fully powered aggregate conveyor needs no field work. No poured foundations required. The TPA-TPC comes equipped with bases that work well in any ordinary soil. In the TPC Automatic, both charging and discharging valves are air-operated. Charging valve is equipped with electric eye for preliminary and final cutoff. Inching control is included on the discharge valve. When the start button is pushed, cement is weighed, the fill valve closing automatically at exact weight desired. The cement is discharged from the batcher by pushing the discharge button.

Erie also offers undertrack screw for auxiliary silo and railroad siding operation. Additional optional equipment includes: autographic recorder, bin extensions for increasing aggregate capacity, water storage tank, admixture dispenser and auxiliary water pump. Capacity for the new model is: 60 cu. yds., per hr., with 3-yd. batches. The 3-compartment bin capacity is 28 yds., heaped. Cement storage silo holds 175 bbls., auxiliary capacity 450 bbls., total 625 bbls.

Erie's new TPA-TPC Portable meets state highway department specifications and has the Corps of Engineers' approval. For further information, write for Bulletin TP-1, Erie Strayer Co., 1851 Geist Road, Erie, Pa.

Enter 546 on Inquiry Card


Men who KNOW, say
"Put the STRESS on
AUTOMATIC"
STIRRUPS and LEVELING LOOPS
Designed for dependability and convenience in the manufacture of prestressed concrete cored slabs.
CHAIRS, HANGERS, STIRRUPS
Carefully shaped #6 and #11 gauge wire forms for accurate centering and ease of use in the reinforcing of concrete joists and other pre-cast concrete products.
chair
hanger
short stirrup
regular stirrup
• SPECIAL SIZES
• PROMPT DELIVERY
Send for prices, literature, samples TODAY!
Serving the Concrete Products Industry
AUTOMATIC SPRING COILING CO.
4045 West Thorndale Avenue • Chicago 46, Illinois

Circular Slide Rule Is Simple To Use

General Industrial Co. has just introduced a handy circular slide rule for engineers and for other plant and office executives. Any executive who must perform simple calculations will find this convenient, pocket-size calculator extremely useful in his work.

Operation of the rule is simple and the results are accurate. To multiply, divide and find proportions is easy and exceptionally fast with this convenient circular rule. Complete easy-to-follow instructions will be included with each slide rule.

For free circular slide rule, write on your business letterhead to General Industrial Co., 5738 Elston Ave., Chicago 30, Illinois.

Enter 547 on Inquiry Card

New Brochure Describes Clark Straddle Carrier

A new four-page, color brochure which gives full specifications and construction features of the 40,000 lb. capacity Clark-Ross Series 95 straddle carrier is available from the Industrial Truck Division, Clark Equipment Company, Battle Creek, Mich.

Operating characteristics such as travel speed, gradeability and turning radius are depicted.

Enter 548 on Inquiry Card

DAVIS COLORS

COLOR STANDARDS FOR THE CONCRETE INDUSTRY

the brand of quality and service

USE THE FINEST CEMENT COLORS

in

BUILDING BLOCK
SPLIT BLOCK
PATIO STONE

NATIONWIDE DISTRIBUTION

FRANK D. DAVIS COMPANY

3285 E. 26th St., Los Angeles 23, Calif.

eastern office: Meadow Rd., Nixon, New Jersey

EDMONT CASE NO. 603: Canvas gloves used in loading and unloading concrete block lasted 1 shift. On the same job, Edmont #30 plastic palm-coated gloves wore 5 to 6 shifts.

Job-fitted glove outwore canvas 5 to 1

No. 30 palm-coated knitwrist

Edmont
JOB-FITTED
GLOVES

The concrete products plant in the case above switched to *job-fitted* Edmont Monkey-Grip gloves because of their outstanding wear. Their special plastic palm coating resists abrasion and snagging . . . won't chip, crack or peel . . . is highly flexible with an excellent grip. For extra duty service, triple-thick palm styles available.

Free Test Offer to Listed Firms: Tell us your operation, materials handled. Without cost, we will send you gloves for on-the-job testing.

Edmont Manufacturing Company
1206 Walnut Street, Coshocton, Ohio
In Canada write MSA, Toronto

For QUICK RESULTS

put your problem in

CONCRETE'S

Classified Ad Section

TOPS FOR:

- **Buying and selling used equipment.**
- **Finding experienced help.**
- **Locating the job you want.**

The cost is low—$10.00 per column inch. All classified ads are sold in even inch multiples. Closing date for all classified ads is the 15th of preceding month. Box numbers available at no extra cost on request.

SEND YOUR AD IN TODAY TO:

CONCRETE PUBLISHING CORP.

400 W. Madison St. Chicago 6, Ill.

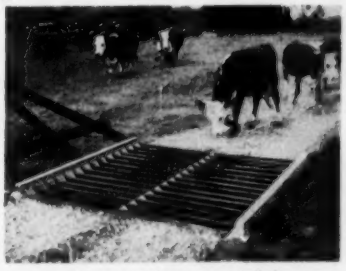
NEW FRANCHISE AVAILABLE

Your territory may still be open for Stock Stopper Cattle Guards*, a brand-new item that converts waste cement into high profits, requires no finishing.

GET THE FACTS NOW—nearly 150 licensees are already doing big volume with Stock Stopper because it's unique in a market that's never been tapped: Every ranch, farm and suburban home is a prospect.

*Pat. pending

Complete "package" Cattle Guard sells easily —direct or thru dealers. Nationally-advertised!



At VERY LOW COST we supply easy-stripping metal forms for Stock Stopper reinforced concrete beams, as well as precut pressure-treated hardwood treads. Every unit you sell means PLUS VOLUME with little or no increase in your labor or overhead. We furnish advertising and sales-aids.

Cattle Guards, 26 South Perry St.
Montgomery, Alabama

Rush complete details on your franchise.

NAME .....

ADDRESS .....

CLASSIFIED ADS

$10.00 per column inch. Closing date for classified advertising copy is 15th of preceding month.

WANTED

One thousand of the 5/16" thick steel pallets 18" x 26". Also, interested in steel racks holding 72 blocks and a tester with a capacity of two hundred thousand pounds.

MERAMEC VALLEY BLOCK CO.
825 Marshall Ave., Valley Park, Mo.

FOR SALE

Single Besser Machine, Concrete Products Plant, location Elmira, New York. Reply:

ALLEN G. STAMM
Turbotville, Pennsylvania

FOR SALE

One Stearns Zipper Vibrator Block Machine in A-1 condition, including mold boxes, pallets and attachments for making 4", 8", 12" block and patio block. Also off-bearer and if desired, some block racks.

OSAKIS SILO CO.
Osakis, Minnesota
PHONE: 3214

WANTED

Used and in good condition — septic tank form 600-800 one thousand gallon capacity, to make 1-piece tanks. Send make, condition, size, specifications and price.

RALPH C. REED
129 Allen St., Beaver Falls, Pa.

FOR SALE

Complete Block Plant for sale. Stearns #50 machine. Excellent opportunity for anyone who wants to own his own business. Reasonably priced — ideally located for year round operation in rapidly expanding area. Phone or write for particulars.

VAN PELT & SON BLOCK CO.
Old Furnace Road Rome, Georgia.
PHONE: 6688

FOR SALE

Kent Twin Block Machine
Front Pallet Feed
Magnetic Offbearer
1,500 Pallets
40 Racks
1 - Marion ⅜ Yard Crane - $5,500.00

PUNTA GORDA READY MIXED CONCRETE, Inc.
520 King Street Punta Gorda, Florida.

FOR SALE

CONCRETE TRUCK MIXERS

5 Jaegers .. 3-4¼ cubic yard capacity
2 Smiths .. 3-4¼ cubic yard capacity
$300 each .. as is, subject to prior sales.

CONCRETE TRANSPORT MIXER CO.
4983 Fyler Ave., St. Louis 9, Mo.
Phone: FLanders 2-7800

PLAIN PALLET CLEANING

We truck our machine to your plant and supervise entire cleaning and planing off of pallet residue. No need to shut down as we will keep up with production.

EDWARD A. LOBSTEIN
31521 Cyril Drive Fraser, Michigan.
Phone: Prescott 2-1135

FOR SALE

Ready Mix Business located in Ohio on Lake Erie in area of about 20,000 population. Sales last year over $200,000, with good possibilities for this year. This going business including modern batch plant, mixer trucks, property and equipment priced at $85,000. Only plant in area.

Address: Box A-58, care CONCRETE
400 W. Madison St., Chicago 6, Ill.

DRAIN TILE TEES

Strip out completed tees from your conccrete drain tile machine with this special casing up to 80 per hour. Special introductory price. Thirty day guarantee.

CONCRETE SPECIALTIES CO.
5500 Richfield Rd. Flint, Mich.

PLAIN PALLET BLOCK MACHINE FOR SALE

We have recently taken several Fleming-180 Automat'c Block Machines on trade. They are being offered for sale at $1200—$1600 complete. For DETAILED information contact:

FLEMING MANUFACTURING COMPANY
Cuba, Missouri.

COLORS *For Cement and Concrete*

COLOR YOUR CONCRETE WITH LANSCO CEMENT COLORS, available in 40 ATTRACTIVE shades. Suitable for all types of concrete products. Write for our new color card, copy of "Suggestions For Using Cement Colors," and for free samples and price list.

Manufactured by:

LANDERS-SEGAL COLOR CO.
76 Delavan St. • Brooklyn 31, N.Y.

FOR SALE

2 — Falk Speed Reducers, Size Du-MD-120-079, 1750 R.P.M. Ratio 318 to 5.5

1 — 10 Horsepower Motor, type OX, Frame 324, Class 2C, Frame C, 1750 R.P.M. 220-440 3-phase, 60 cycle, 26.4-13.2 Amp. Make is Louis Allis Co., N.E.M.A.

1 — Fairbank Morse Motor, 10 horsepower, type 05. Frame F.W. 324, #359892, 3-phase, 60 cycle. 1740 R.P.M. 220-440

2 — Valley Motor, 1½ horsepower, 220-440, 3-phase, 1750 R.P.M.

2 — Schaub Turbine Water Pumps for 30 horsepower boilers.

1 — Johnston 30 horsepower boiler, high pressure, used for curing cement block.

1 — Coal Stoker, screw type. New screw and also new tweer's for same. Motor included.

SOUTH DIXIE SUPPLY CO.
Route #25 Perrysburg, Ohio

More Production! Bigger Profits!

SPILLMAN'S FORMS

For Concrete Specialty Products

• Splash Blocks • Stepping Stones • Window Wells • Lintels • Wall Caps • Parking Blocks • Window Sills • Lawn Trim • Pool Coping • Park Benches • Grandstands

Write for 1959 Catalog Showing Hundreds of Forms in Stock!

Special Orders to Your Specifications

BULL NOSE STAIR TREAD

ELECTRIC VIBRATING TABLES
PD CONCRETE INSERTS | SWISS FORM OIL
BURIAL VAULT FORMS

Write Today or Phone HI. 3-1586

R. L. SPILLMAN CO.
Box 534-S Station G Columbus 7, O.

READY-MIX CONCRETE EQUIPMENT FOR SALE

Five LF 190 Internationals 1952 Models with 5 cu. yd. Smith & Jaeger Mixers — Good Condition $5,600.00 to $6,000.00 ea.

1951 F-7 Ford with 3½ cu. yd. Jaeger Mixer — Excellent Condition .. $3,000.00

1952 Chevrolet with 2 cu. yd. Jaeger Mixer — Good Condition $1,000.00

Two K-7 Internationals with 2 cu. yd. Smith Mixer ..... $1,000.00 ea.

LF 180 1952 Model International Tandem with 4 cu. yd. Challenge Mixer $4,000.00

Two 1953 GMC Tandems with 3½ cu. yd. Rex Mixer ..... $3,500.00 ea.

This equipment is operating daily. Located — South Carolina.

Address: Box A-59, care CONCRETE
400 W. Madison St., Chicago 6, Ill.

SWAP — SELL — BUY
BLOCK MACHINES

	Stearns #7 & 9 Joltcretes (Joltcrete owners at this price buy one for spare parts.)	$ 500.00 each
	Mold Boxes #7 & 9	150.00 each
2	Air Offbearers Stearns #7 & 9	250.00 each
2	Hand Lift Trucks	175.00 each
1	Lithibar 2-Block Machine complete with 1000 plain steel pallets 18" x 22"	2900.00
1	Stearns 42 cu. ft. Mixer. Very good Condition. Complete with motor	2500.00
	100—Racks for cored steel pallets	10.00 each
	100,000 pressed steel pallets in stock (Send tracing or sample for quotation).	

WRITE • WIRE • PHONE
Mr. McCaughey

Send in list of equipment you need. If we don't have it in stock, we usually know where we can find it at a bargain.

GENERAL ENGINES CO., INC.
Route 130 Therefore, N.J.
PHONE: Tilden 5-5400

SMITHKO CEMENT COLORS

- **The Standard of Comparison for Nearly Forty Years**
- **65 Shades to Choose From Including Many New Colors**

Send For Latest COLOR CARD, Samples, Technical Brochure, and Quotations.

SMITH CHEMICAL & COLOR CO.
53-57 John St., Brooklyn 1, N.Y.

INVENTORS AND MACHINE DESIGNERS

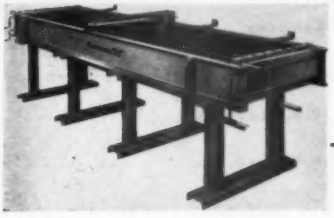
National manufacturer is desirous of obtaining manufacturing and sales rights on any equipment or improvements used in concrete products plants on a royalty or outright purchase basis. Patents not essential. Protection guaranteed.

Address: Box E-4, care CONCRETE
400 W. Madison St. Chicago 6, Ill.

PALLET CLEANING

We have the most modern machines in use and can do your pallet cleaning to meet your work schedule. There is no extra charge for transporting our machines as they move on our own trucks.

EASTERN PALLET CLEANING, INC.
2424 95th Street North Bergen, New Jersey
Phone: Union 9-0260



SUPERIOR

MULTI-MOLD LINTEL MACHINE POINTS THE WAY TO GREATER

PROFITS FOR YOU!

- **Reduces man-hours per lintel.**
- **Low investment — high returns.**
- **Adaptable to many linear shapes.**
- **Hi-Quality — all welded construction.**
- **Capacity up to 120 linear feet.**
- **Interchangeable base pallets.**
- **Fast — Neat — Clean.**

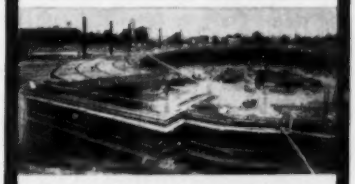
USED Throughout The Concrete Trade To Produce:

1. **Consistant Hi-Quality products.**
2. **A cleaner, smoother, stronger product.**
3. **Up to 120 linear feet in one pour.**
4. **A variety of linear shapes.**

GET DETAILS TODAY

SUPERIOR CONCRETE MCHY. CO.
1892 ANDOVER RD. COLUMBUS 12, OHIO

ECONOMY STEEL FORMS used on Los Angeles' $6 million Sports Arena



By renting Economy Steel Forms for large jobs, working capital is freed for other needs. Economy Forms are supplied with supervisory service. Quickly lock together with a simple twist of a clamp. Save time, money, materials — increase profits.

FORMS FOR RENTAL OR PURCHASE

Economy Forms Corp.
Box 128-H, H. P. Station
Des Moines, Iowa

Please send catalog on Economy Steel Forms, and address of nearest sales office (there are 24 coast-to-coast).

Name _____

Firm name _____

Street address _____

City _____ State _____

E. L. CONWELL & CO.

Established 1894

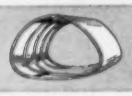
ENGINEERS • CHEMISTS

INSPECTORS

Cement, Chemical and Physical Laboratories
Tests of Cement, Concrete, Sand, Steel, Cement Block, Cement Brick.
Chemical Analyses of All Commercial Products. Complete Technical Supervision of Central Mixed Concrete Plants.
2024 ARCH ST. • PHILADELPHIA, PA.

No Matter What SIZE...

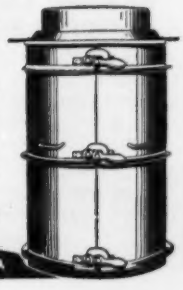
No Matter What SHAPE...



QUINN CONCRETE PIPE FORMS

Set The STANDARD For Producing Quality Pipe!

Over 50 years of experience go into the production of every Quinn Concrete Pipe Form. That's why the Quinn Heavy Duty form is recognized as the STANDARD the world over for producing quality concrete pipe at the lowest cost. Used in making pipe by vibration, spading, or tamping. Sizes for pipe 10" to 120" and larger. Tongue and groove (as shown) or bell end pipe in any length desired. No matter what size, shape, or length pipe you need, there's a Quinn pipe form made to fit your requirements. Write today for our FREE catalog and estimates.



Also Manufacturers of QUINN CONCRETE PIPE MACHINES

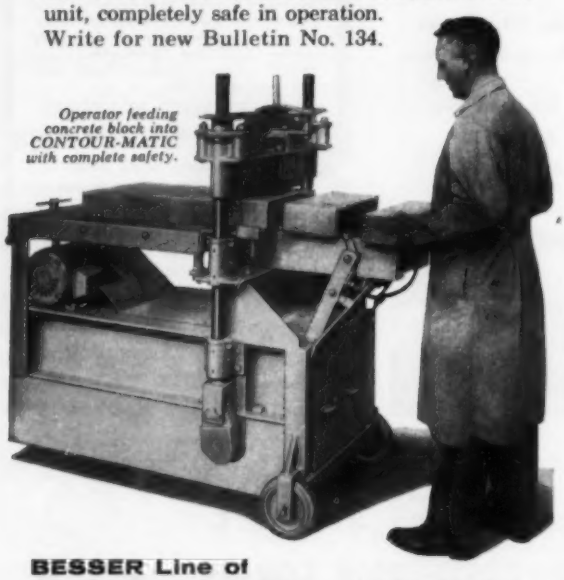
Quinn WIRE & IRON WORKS BOONE, IOWA

Bigger Profits with Besser CONTOUR-MATIC

the Faster, All-Mechanical Block Splitter with the SELF-LEVELING BLADES

Now — you can produce as many as 2000 split block per hour with the Besser CONTOUR-MATIC — the all-mechanical, non-hydraulic block splitter with power transmitted through a simple gear train. It's so easy to operate and maintain. Only a few adjustments are necessary. Assures smooth, continuous, profitable operation. Twelve patented, self-leveling blades automatically conform to the contour of the block or stone. Each blade acts like a chisel, splitting material 1" to 8" high. Culls are practically eliminated.

The CONTOUR-MATIC is a compact, mobile unit, completely safe in operation.
Write for new Bulletin No. 134.



Operator feeding concrete block into CONTOUR-MATIC with complete safety.

BESSER Line of BLOCK SPLITTERS and TRIMMERS

CM-24" Power Model Splitter...CM-16" Power Model Splitter...CM-16" Hand-operated Splitter...CM-12" Hand-operated Trimmer . . . CM-9" Hand-operated Trimmer . . . SB-9" Hand-operated Trimmer . . . Pony Junior Trimmer.

BESSER COMPANY
Alpena, Michigan, U. S. A.

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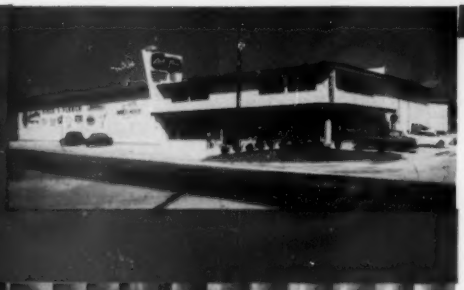


Shown at Right, Wm. R. Rom, Plant Superintendent, Robt. W. Evans, President

RIECK *and* FLEECE
Builders Supplies, Inc.

lumber

1216 Central Avenue
Telephone 7-1151
St. Petersburg, Florida

September 30, 1958

Mr. Myron Hultmark
President and General Manager
Stearns Manufacturing Company, Inc.
Adrian, Michigan

Dear Mr. Hultmark:

I would like to take this opportunity to inform you of the very fine operation we are getting from the Stearns Electromatic Block Machine.

As you know, before we purchased this machine we spent considerable time and effort making an investigation of the best possible machine which we could purchase and which would give us speed as well as quality production. Our previous investigation has been well worth while, as the Electromatic has more than proven our expectations.

Very truly yours,

Robert W. Evans
President

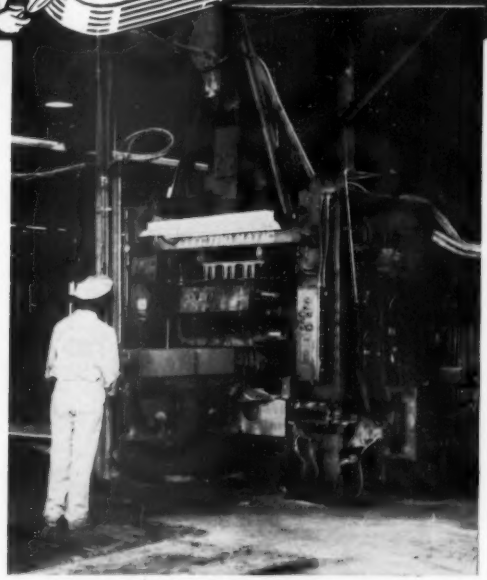
RWE/d

RDWARE • PAINT • MILLWORK •

"We investigated them all..."

and our new ELECTROMATIC is greater than expected!"

. . says *Rieck and Fleece Builders Supplies, Inc., St. Petersburg, Fla.*



THE STEARNS ELECTROMATIC recently installed at Rieck and Fleece Builders Supplies, Inc., St. Petersburg, Florida.

It is no surprise, after *thorough* investigation of *all* makes of block machines, that Rieck and Fleece of St. Petersburg, Florida should choose a Stearns Electromatic. Established, is the proven fact that the Stearns Electromatic assures higher production of quality block at lower unit cost . . . greater profits!

Block plant owners the country over highly endorse the engineering principles of the Electromatic and will attest to its leadership. Write today, for the name of the installation nearest to you.

ASK ANY OWNER

STEARNS

MANUFACTURING COMPANY • INC.

ADRIAN • MICHIGAN • U.S.A.

COMPLETE CONCRETE PRODUCTS PLANT EQUIPMENT

For more information use postcard facing page 48.

★ This is the 149th of a series of ads featuring leaders in the concrete products industry who are stepping up block production with Besser Vibrapac machines.

Another LEADER in the Block Industry!

(left to right) President Fred J. Elliott and wife; M. L. Hollsten, Vice President; E. Wilshire, Sales Dept.; and D. Monk, Plant Foreman. Note cubes of HI-LITE block in background.

"Keep Me a 100% *Quality* BLOCK"

You'll find this inscription on a large sign in front of the Elliott Precisi Block Company plant, San Bernardino, California. Elliott produces only hi quality block. They always strive for beauty and accurate dimensions. Ea unit must be of proper weight and strength . . . through constant control mix, height and density.

Naturally, Elliott relies on Vibrapac machines for fast production of quali block. They now have two Vibrapacs. The first one was installed in 1949. Bo machines are under the popular Vibrapac agreement. Fred Elliott, Presider states: *"Besser leased equipment helps a small business to grow to be a b business and make bigger profits".*

Elliott produces all types of block including spec units for garden walls, patios and swimming pools . the popular BES-STONE split block . . . and the n HI-LITE and SHADOWAL design block.

You, too, can safely put your complete confidence Vibrapac block machines. Write Besser for literatu or see your nearby Besser representative.

BESSER Company

Dept. 127, Alpena, Michigan, U. S. A.

FIRST IN CONCRETE BLOCK MACHINES

A8

Outdoor plant of Elliott Precision Block Co. Note two Vibrapac machines, and, overhead, two Besser Mixers. Yard scene shows orderly cubes of block, ready for shipment.